Modern packaging

Nominated for *Packaging's Hall of Fame*®. Story on Page 92

February 1952

NOW

Vinyl Acetate Copolymers in Water Emulsions

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- **Heat-Seal Coatings**
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- **Adhesive Formulations**
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YES—We are interested in Vinyl Acetate Polymers and Copolymers in emulsion for _____ (application).

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Name _____ Title _____

Company _____

Street Address _____

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PAPERBOARD • FOLDING CARTONS • SHIPPING CONTAINERS

Modern packaging

Vol. 25 No. 6 February 1952

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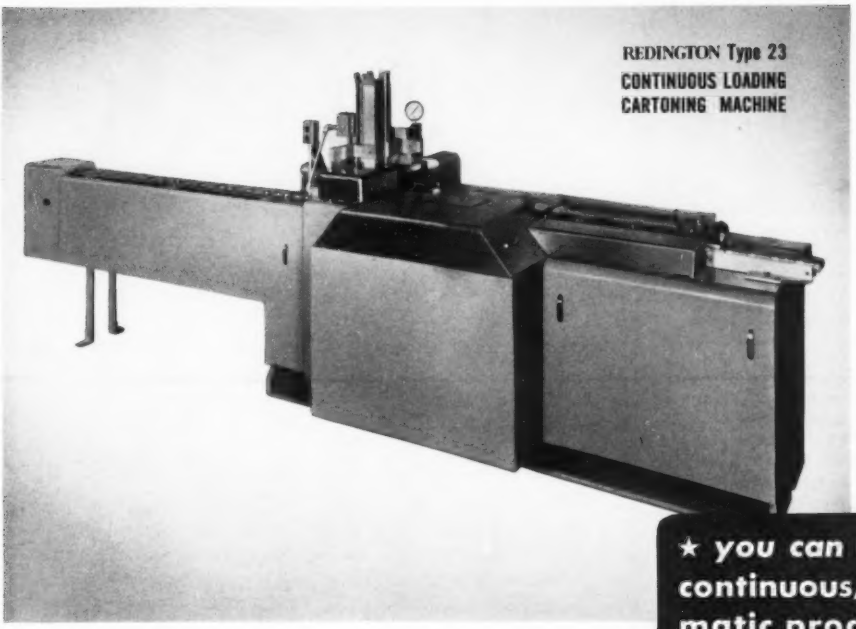

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Whether your volume is large or small . . whether you pack penicillin or pen points, crackers or codfish . . let our experienced engineers point out practical ways to get better results and reduce labor costs with REDINGTON Packaging. Just tell us how you are packaging your product now — and write today!

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Modern packaging

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Modern Packaging published monthly by Modern Packaging Corp., at Emmett St., Bristol, Conn. Subscription $5 for one year, $8 for two years in United States and Canada; foreign, $8 one year, $12 two years, $15 three years. All foreign subscriptions payable in United States currency or equivalent in foreign currency computed in current exchange by money order or by draft on a New York bank. Price this issue, 75 cents per copy (foreign, $1). Copyright 1952 by the Modern Packaging Corp. All rights reserved including the right to reproduce this book or portion thereof in any form. Printed in U.S.A. Acceptance under Sec. 34.64 P. L. & R. at Bristol, Conn. Authorized Dec. 21, 1950.

MODERN PACKAGING is regularly indexed in the *Industrial Arts Index*.

EDITORIAL

Population and packaging

THE IMPACT OF POPULATION TRENDS on long-range planning for packaging is a factor previously pointed out in these pages. Birth statistics are gyrating as never before under the influence of wars and alternating peace hopes and war scares. For the same reasons, family units are being broken, re-united and subdivided again.

When 3,867,000 new U.S. babies appeared in 1947, following World War II demobilization, it was thought that births had reached a peak that would stand for a long time. Now census estimates indicate that the 1951 crop exceeded 3,900,000. The Metropolitan Life Insurance Co. says the new record is caused only in part by the increase in the marriage rate after the start of war in Korea; it notes also a significant trend to larger families—more young women having their third or fourth child, a departure from the one- and two-child pattern that has seemed set in recent years.

Our total population, affected both by bumper baby crops and the steadily increasing longevity of oldsters (36% more Americans over 65 than there were in 1941), is mounting at a rate which confounds the predictions of 10 or 15 years ago. Population is now estimated to be in excess of 155 million—just about doubled in half a century—and on the basis of the latest figures it is likely that it will reach 190 million within 25 years.

Prosperity is credited with having as much to do with the marriage-birth wave and the bigger-family trend as mobilization scares. And prosperity is rapidly breaking down the war and postwar doubling up of families—thereby creating new markets for every type of packaged home supply. Immediately after the war, an estimated 8.6% of married couples were living with in-laws; now the figure is down to 4.9%.

All of this is of immense importance to the thoughtful packager—whether he is considering the size of next year's market for baby gifts, the proper content of a "family-size" package of cereals or the extent of packaging facilities that will be required to take care of his total market 10 years hence.

The Editors

Pliofilm Bags *are coming up* Strong!

Transparency! Durability! Strength! These qualities of Pliofilm* bags, made by Dobeckmun, account for their increasing popularity. For pre-packing heavy weight or hardware items, such as oranges, apples, lemons, onions, potatoes and grapefruit, you just can't find a safer, more attractive, faster-selling wrapper. Available now, in sizes for every pre-packing need. For the finest in Pliofilm bags, insist on Dobeckmun-made products.

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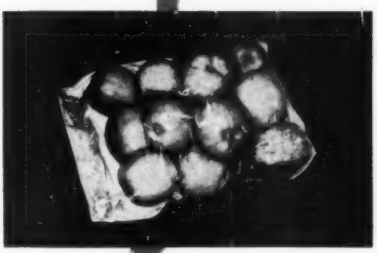
*T. M. The Goodyear Tire and Rubber Company



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News about

B. F. Goodrich Chemical Company *raw materials*

B. F. Goodrich Chemical Company does not make these finished products. We supply only the Geon latices.

for cars, shelves, and unbeatable drums!

New developments in the use of versatile Geon latices

THESE are a few of the things manufacturers are doing with coatings of Geon latices on paper, textiles, fiberboard and other materials to create new, saleable products.

Decorative wrapping paper coated with Geon latex has a glossy surface, attractive yet tough. Non-woven fabric impregnated with Geon latex is washable, resists grease and oil and is made strong enough to polish a car. Interior and exterior Geon coatings for fiber drums give them longer life, washability as well as protecting the walls from greasy or corrosive contents.

Boxes for baked goods and similar "greasy" foods are coated with Geon latex to provide grease and moisture resistance.

Geon latices are easy, safe and economical to use. Being water dispersions of vinyl resins, there are no solvent problems—no fire hazards or costly recovery systems—in processing.

Such is the versatility of the Geon family of latices that many new uses can be expected as more manufacturers become acquainted with them. Each Geon latex in the family is specially designed for certain types of applications.

Our technical service is ready to help you select the Geon latex best suited for your use. Write for the Geon Latex Chart, and for the new booklet, "Packaging Problems Solved With Geon". Please address Dept. GL-2, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, O. In Canada: Kitchener, Ontario. Cable address: Goodchemco.

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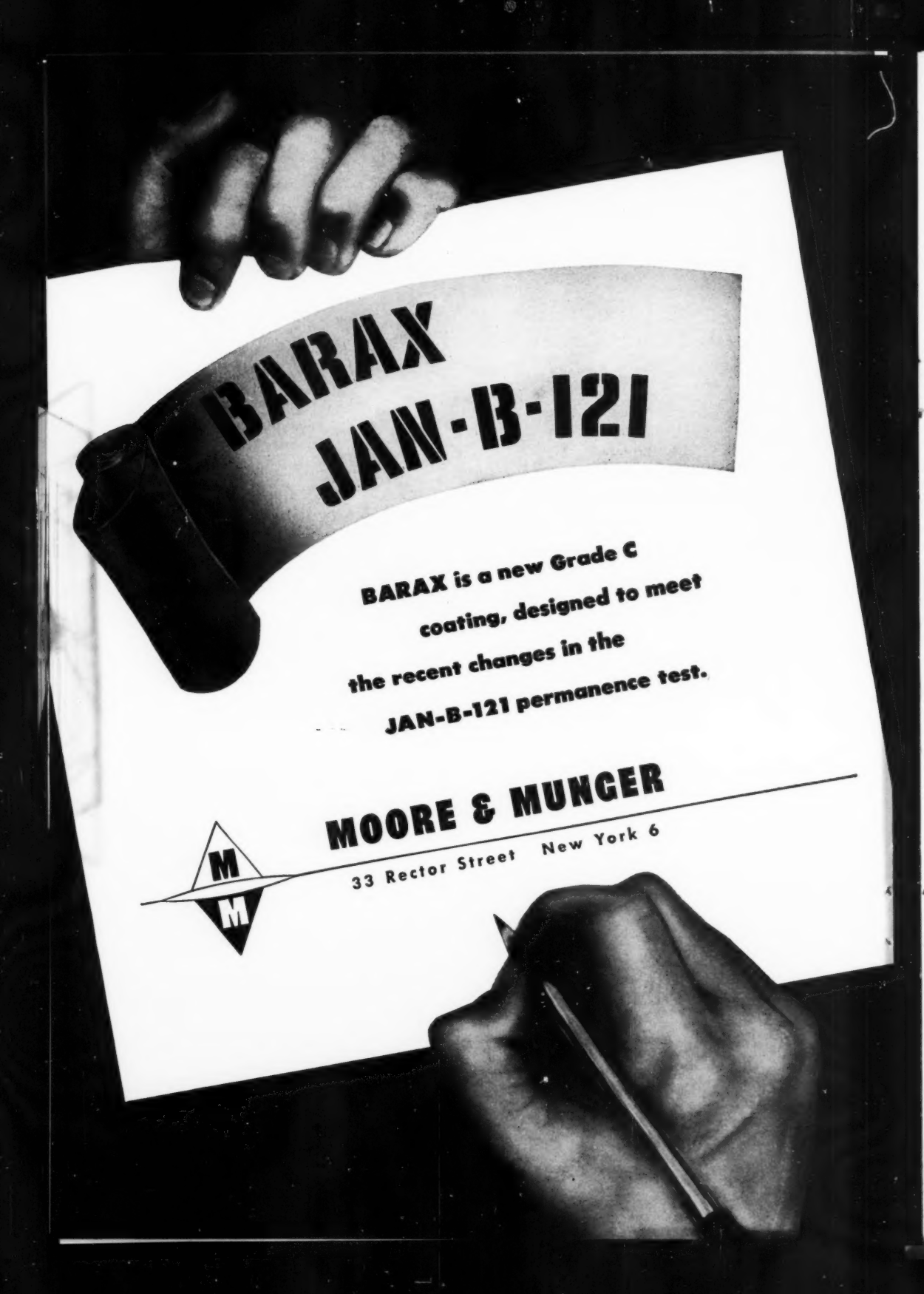
GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON organic colors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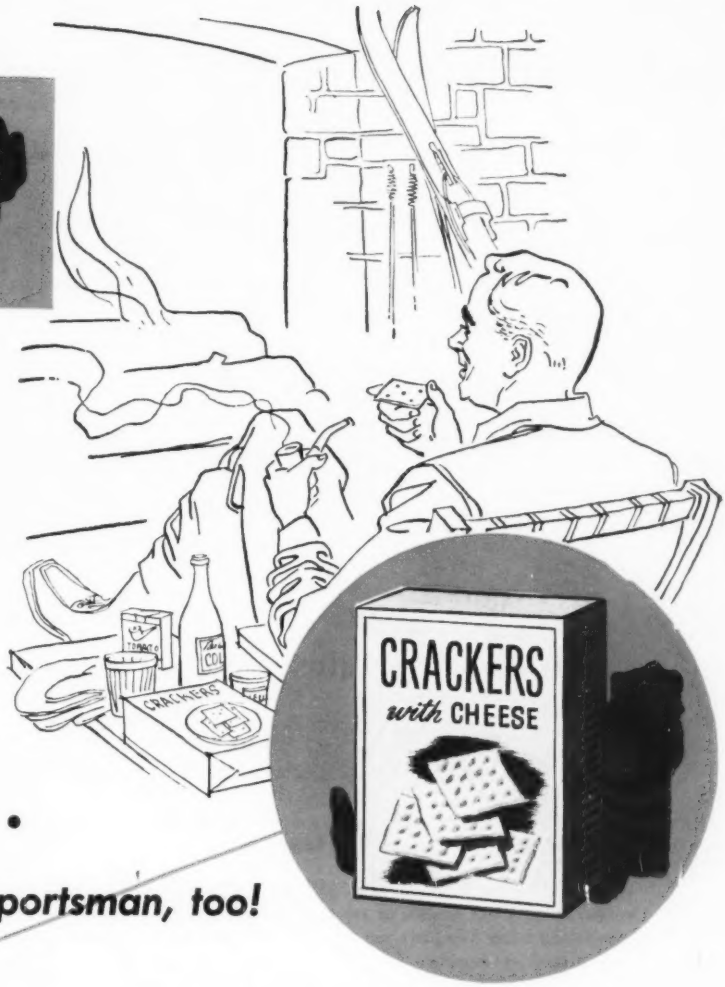

Swift's Adhesives help you . . .

and the sportsman, too!

After a day on the slopes, this skier doesn't think about the packages his refreshment comes in. But, most all these packages have been made or labeled with various kinds of adhesives . . . many of them Swift's Adhesives.

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#1262 — Liquid adhesive for top and bottom sealing and titewrap work. A fast-setting, non-warp type adhesive that is clean machining.

Textite — for quality setup box work. In convenient cake form — it is a non-warp type, light colored for finest work. Economical because of its better coverage resulting in lower final cost.

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Cross Swing Sifter Sampler

So good for sales! So easy to fill!

In the face of current selling conditions, distribution of product samples is rapidly becoming a necessity. And these Cross round miniatures provide the modern answer for the perfect sampling container.

Dressed as an exact replica of your full size container, patented Cross Swing Sifter Samplers are sure-fire for sampling all sorts of powders such as cosmetics, food, drugs, pharmaceuticals and anything else that can be dispensed through a shaker or a sifter.

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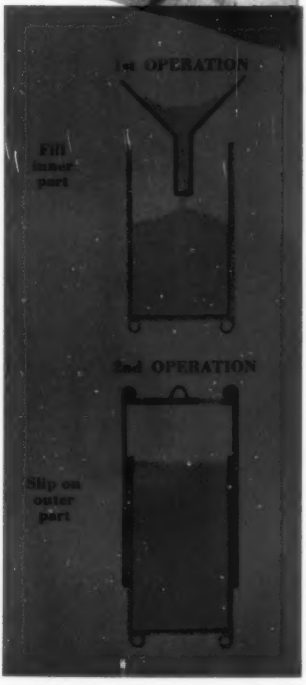
Almost any standard filling equipment can be used to fill Cross Samplers. Just fill the inner section, and then slip the outer part over it. Then a simple twist of the top, and your product flows freely.



Ask for a representative to show you samples and discuss your problems.

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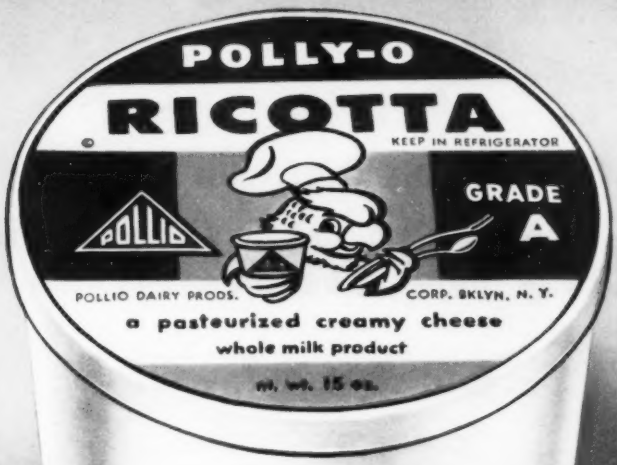
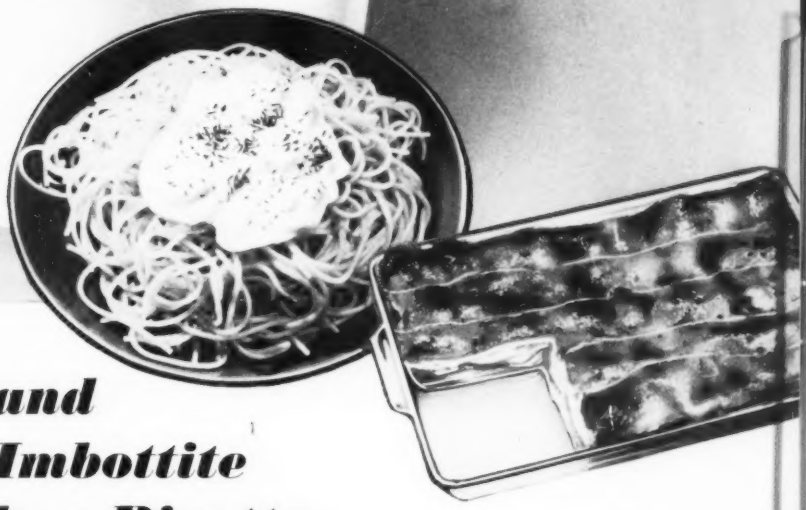


From the
World's Greatest Assortment of Rigid Plastic Boxes



Spaghetti and Lasagne Imbottite Via Polly-o Ricotta

If you think that sounds like the Italian Peace Treaty, in a way you're right! Lovers of this unique Italian cheese are able to enjoy its full delicate flavor in scores of tasty dishes like spaghetti and lasagne largely because the Pollio Dairy Products Corp. packages its Ricotta in Tri-State rigid plastic containers.

The 100% visibility of these transparent plastic packages assure the consumer of the product's absolute cleanliness and freshness. The insulating property of the Styrene box also preserves the contents at more even temperature and humidity. The user welcomes the reusable feature of the box for an endless number of refrigerator and household utilities. And dealers appreciate the greater sales response these qualities promote.

Our stock box No. 420F (Diam: 3-3/4" x 2-3/4" deep) provides Pollio with a bonus, showcase package... Whether you package dairy products, foods, tobacco, confections — class or mass merchandise of any kind — there's a Tri-State Rigid Plastic Box to fit your product, build your sales, simplify your packaging operations. If we cannot fill your needs from our wide variety of stock sizes and shapes, we'll mold to your specifications.

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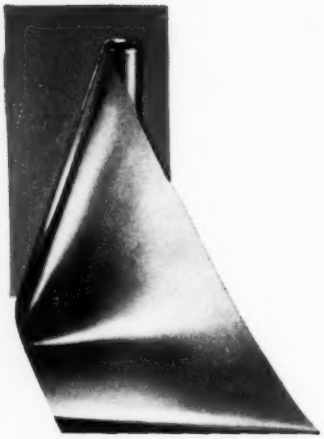
To Outshine Competition Start with . . .

REYNOLDS ALUMINUM FOIL

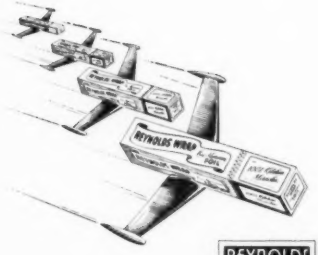


. . . and start Today for Tomorrow's sales

Even plain aluminum foil possesses a fascination unequalled by any other packaging material. But when it is **Reynolds Aluminum Foil,** like this sample, you get much more than meets the eye. For the Reynolds name means the longest experience in rolling foil, the latest developments in laminating foil, and unequalled efficiency in color printing on Reynolds own high-speed rotogravure presses.

Add the services of Reynolds famous design staff and of Reynolds experts in automatic packaging machinery, and you are guaranteed the very best results from the best protective and display material known.

In these days of highly competitive supermarketing, the first step in your package-planning, for future sales, is to decide on aluminum foil. The next step is to get in touch with the nearest Reynolds Aluminum Sales office, or write **Reynolds Metals Company, General Sales Office, Louisville 1, Kentucky.**



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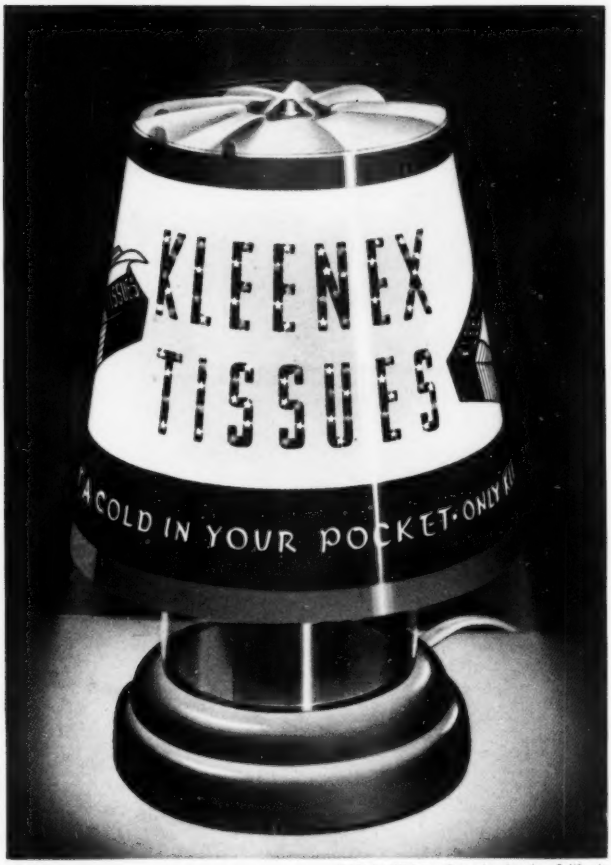

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FOR DISPLAYS

. . . display men economize on Acetate's toughness use thinner gauges in 7 out of 10 cases

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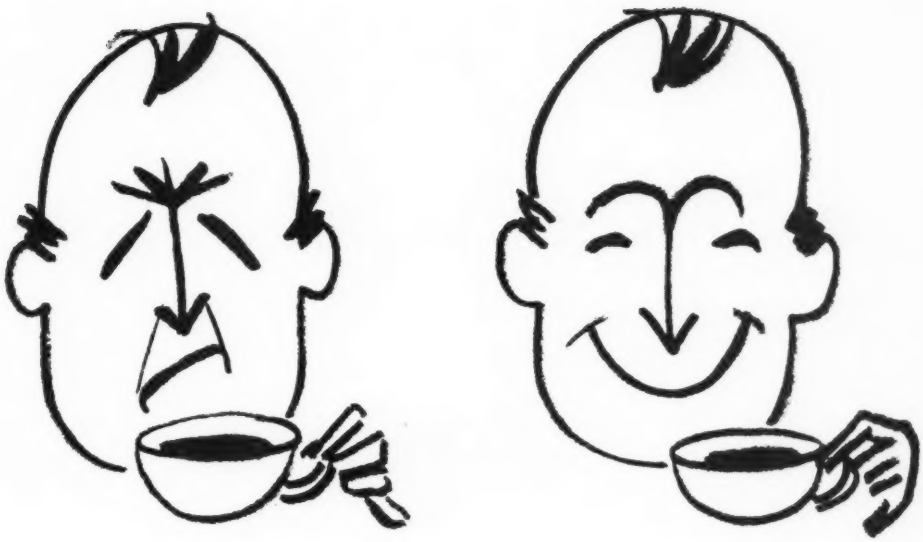
*Reg. U.S. Pat. Off.

The new Celanese acetate booklet is now on the presses. Reserve your copy now by writing to: Celanese Corporation of America, Plastics Division, Dept. 10-B, 180 Madison Avenue, New York 16, N. Y. In Canada, Canadian Cellulose Products Limited, Montreal and Toronto.

Celanese* Acetate PLASTICS



same product... same customer

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You can get prompt delivery on specialty bags printed in one to five colors, specifically constructed and designed for coffee, dog food, salt, feed, flour, potatoes, sugar, insecticides, plant food, or similar products. It's time now to re-evaluate your various packages with an eye to the future and the use of new, improved paper bags being designed by A&S Packagers. Write to our Packaging Engineer, A&S Packaging Laboratories, Canajoharie, New York, for further information.

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shape up to build product sales

CUSTOM BOTTLES—Give free play to your imagination in planning the use of custom shaped ~~CHILD-PLASTIC~~ BOTTLES for your products. By combining our engineering and molding skill with our exclusive patented process, we can produce bottles in a surprisingly wide variety of shapes and sizes—and in virtually endless colors. We also make closures and atomizers designed to meet your special needs.

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Let us or our sales agent show you how we can create product selling bottles for you today.

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From the Gardner *Gallery of famous American Packages*

An Attitude

. . . THE UNSEEN INGREDIENT

Actually, it *can* be seen. Look closely at any product that has become an American buy-word—and you'll see more than the physical materials of which it is made.

You'll see the attitude of men determined to make and market a superior product. Look closely at any Gardner carton—and you'll see reflected that very same attitude.

Here at Gardner we believe in never being quite satisfied with a good job. We feel an obligation to ourselves—and to our customers—to do even better, tomorrow, what we have gained recognition for doing well today.

We think that's an important reason why you'll find so many of America's most famous products packaged in Gardner cartons.

THE GARDNER BOARD AND CARTON CO.

Manufacturers of Folding Cartons and Boxboards

GENERAL OFFICES: Middletown, Ohio—PLANTS: Middletown, Ohio; Lockland (Cincinnati), Ohio
Sales Offices in Chicago, Cleveland, New York, Philadelphia, Pittsburgh, St. Louis

GARDNER

Lucky Me!

...my favorite breakfast

This young lady isn't alone in her appreciation of good food. Crisp, hot waffles generously sprinkled with McCormick Cinnamon Sugar are a number one dish with many, many folks . . . young and old . . . for breakfast, lunch or supper. McCormick Cinnamon Sugar adds a mighty delicious touch to cakes, cookies, custards, applesauce . . . and, of course, for making that old time favorite . . . cinnamon toast.*

INASEAL

Ask your Crown Representative to tell you about the INASEAL liner . . . it's variety of applications . . . how it may be used to give your products better protection.

* *McCormick Cinnamon Sugar is one of the products in the line of spices and seasonings packed by McCormick & Co., Inc., Baltimore, Maryland.*

The McCormick Cinnamon Sugar package has just about everything you could ask for.

Eye Appeal . . . the sparkling red, white and blue label attracts attention.

Convenience . . . the perforated Crown Screw Cap makes it ideal for table use.

Re-usability . . . can be re-filled with spices, seasonings, etc. for other uses.

Safe Sealing . . . the Crown Screw Cap and glassine Inaseal liner team up to protect the product from moisture, tampering and sampling.

When you're re-designing your package, or creating a new one, take advantage of Crown's customer service. Our years of sealing experience and laboratory facilities are at your disposal to help you select the closure and liner that is best suited to your package . . . your product . . . your production requirements. There is no cost or obligation for this service. Crown Cork & Seal Company, Baltimore 3, Maryland. *World's Largest Makers of Metal Closures.*

CROWN CLOSURES

Approved by millions of housewives

here's why

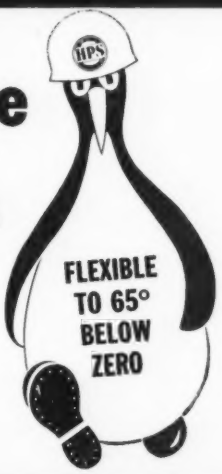
Penguin Pak

BLUE STRIPE

users

are Penguin Pak choosers:

Positive
all around
HEAT SEAL
during
fabricating
and
final closure

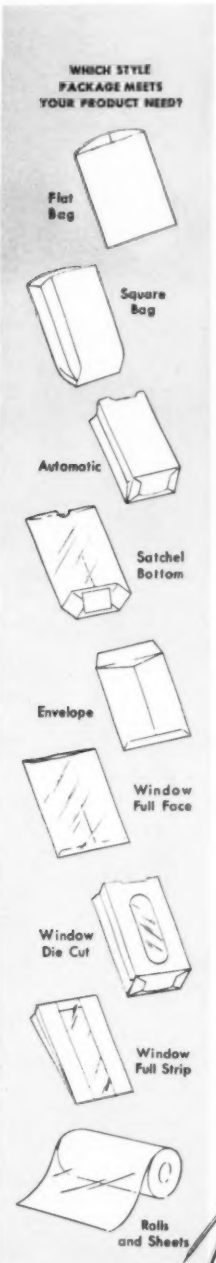


Bag and Pouch Users are specifying

Penguin Pak (Blue Stripe) because it more than meets requirements for fabricating, packing, inspection, and all-weather protection. Penguin Pak is thermal resin coated by the exclusive HPS "Loxol" Process. Complete protection is assured. Write for full information on the LOXOL process for protective wrapping. Be sure your next fabricating job has (Blue Stripe) Penguin Pak base stock.

H. P. SMITH PAPER CO.
MANUFACTURERS
IMPREGNATORS · LAMINATORS · FOIL
COATERS · PAPER · FABRIC

Specialists in Protective Barrier Materials
5001 West Sixty-Sixth Street, Chicago 38, Illinois



Whether your packaging problem is franks or footwear—OVP holds the answer!

For—OVP stands for
Oneida Versatile Packaging!

Oneida fabricates from virtually every type of film and paper; producing printed rolls and sheets; flat, square, automatic, satchel-bottom, envelope and window style bags—featuring such printing processes as aniline, rotogravure, and oil.

Oneida has solved hundreds of flexible packaging problems including design, package construction, and product protection; and has consistently produced printing results that are sharp, clear, telegraphic! Little wonder, therefore, that Oneida packages play such sweet music on the nation's cash registers!

So, when tackling *any* packaging problem, it's dollars to doughnuts OVP—Oneida Versatile Packaging—has the answer. Four plants throughout the U. S. are at your service. Contact the plant or office nearest you—*right now!*

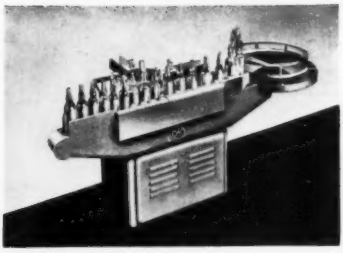
ONEIDA paper products inc.

Converters and Color Printers of Bags, Envelopes, Sheets and Rolls from: Glassine, Cellophane, Pliofilm, Parchment, Polyethylene, Sulphite, Foil, Acetate, Kraft, Waxed, Coated and Laminated Grades . . . in Flat, Square, Automatic, Window, Satchel-Bottom, Duplex, Embossed and Heat-Lok Styles.

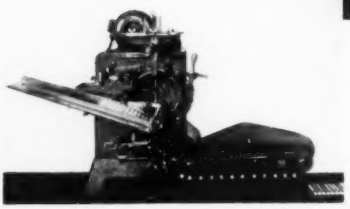
10 Clifton Boulevard, Clifton, New Jersey • 3629 East First Street, Fort Worth, Texas • 8119 Beach Street, Los Angeles, Calif.

JAGENBERG

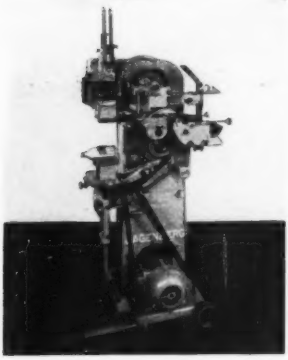
the name that means the finest bottle and package labelling equipment



"BLITZ" A high speed unit for applying body labels to round bottles, jars and similar cylindrical objects. Output: Model I—150 per minute. Model II—250 per minute.



"BENCHPRESTO" The foremost high production machine for automatically labelling such small cylindrical articles as tubes, ampoules, crayons and batteries. Output: up to 55 per minute.

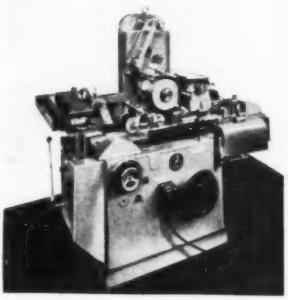


"TYPE III" Versatile universal semi-automatic machine for labelling bottles, jars and flat packages. Applies labels of any shape. Occupies only 20" x 24" space. Output: up to 35 per minute.

Reliability, compact construction, superior production rates and a minimum of package breakage and other stoppages have created a worldwide reputation for excellence for the package labelling equipment designed and built by Jagenberg-Werke A. G., Dusseldorf (West Zone), Germany.

These machines are available through Alfred Hofmann & Co., sole U. S. distributor, who provides nationwide service and stocks all necessary spare parts for quick delivery.

The outstanding performance of Hofmann's low-cost Jagenberg bottle and package labelling equipment merits your further investigation. Write for particulars. Alfred Hofmann & Co. *Showroom and Offices: 635 59th Street, West New York, New Jersey.*



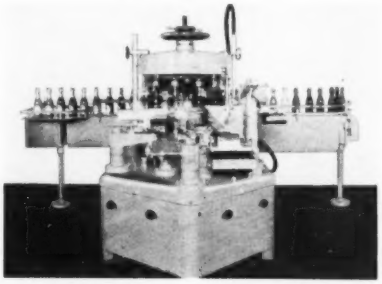
"R.E.A." Boxes, rigid and soft packages, jars and bottles can be labelled automatically by the "R.E.A." It applies top and body labels, band labels, all around labels and will even apply labels to 2, 3 or 4 sides. Output: up to 120 per minute.

All **JAGENBERGS** Feature
"Full Surface Glueing"

Jagenberg "peel-action" glue application places a thin, even film of glue *over the entire surface* of each label. Long experience proves this system yields superior adhesion, and easier wash-off when bottles are re-used.

Type III	Blitz	R.E.A.	Benchpresto

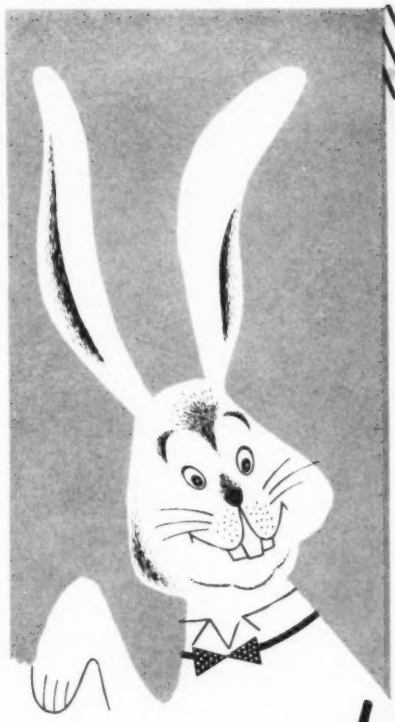
See them perform at the Packaging Show
BOOTHS 1171, 1254, 1264, 1298



"NOVO-TEMPO" Specially designed for building into high-speed bottling lines. Operates with continuous rotary motion for greatest efficiency. Applies body, breast, strip, neck and closure seal labels in perfect register. Output: 6,000-8,000 per hour.

ALFRED HOFMANN & CO.

Sole U.S. Sales and Service Agents for Jagenberg Labelling and Packaging Machines



It's Customary!

Colorful eggs for Easter and colorful packages for sales — they're traditional.

Standard can't help you with the eggs, but we sure can lend a hand with the packages. Let us show you how well we can design and print wraps that will lure shoppers in better than customary fashion.

COLOR-CRAFT

Standard printing company

PRINTERS OF CELLOPHANE, ACETATE and GLASSINE SINCE 1936

COLUMBUS, GEORGIA

Sales Offices: Dallas, Texas—Charlotte, N. C.—Jackson, Miss.

We invite you to use the Professional Services of the ORKIN INSTITUTE OF INDUSTRIAL SANITATION

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Operational policies of the Institute will be established by an independent board of advisors consisting of individuals who are recognized authorities in sanitation. These men have been selected to serve in this advisory capacity to insure that the professional objectives of the Institute are achieved in its operations.

- We offer you complete consultive and inspectional sanitation services for all types of industry. A service designed to meet your demands for quality control. Microbiological, chemical, bacteriological laboratory services are available. Write for information concerning our sanitation training program specifically designed for your employees.

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713 West Peachtree Atlanta, Georgia

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and
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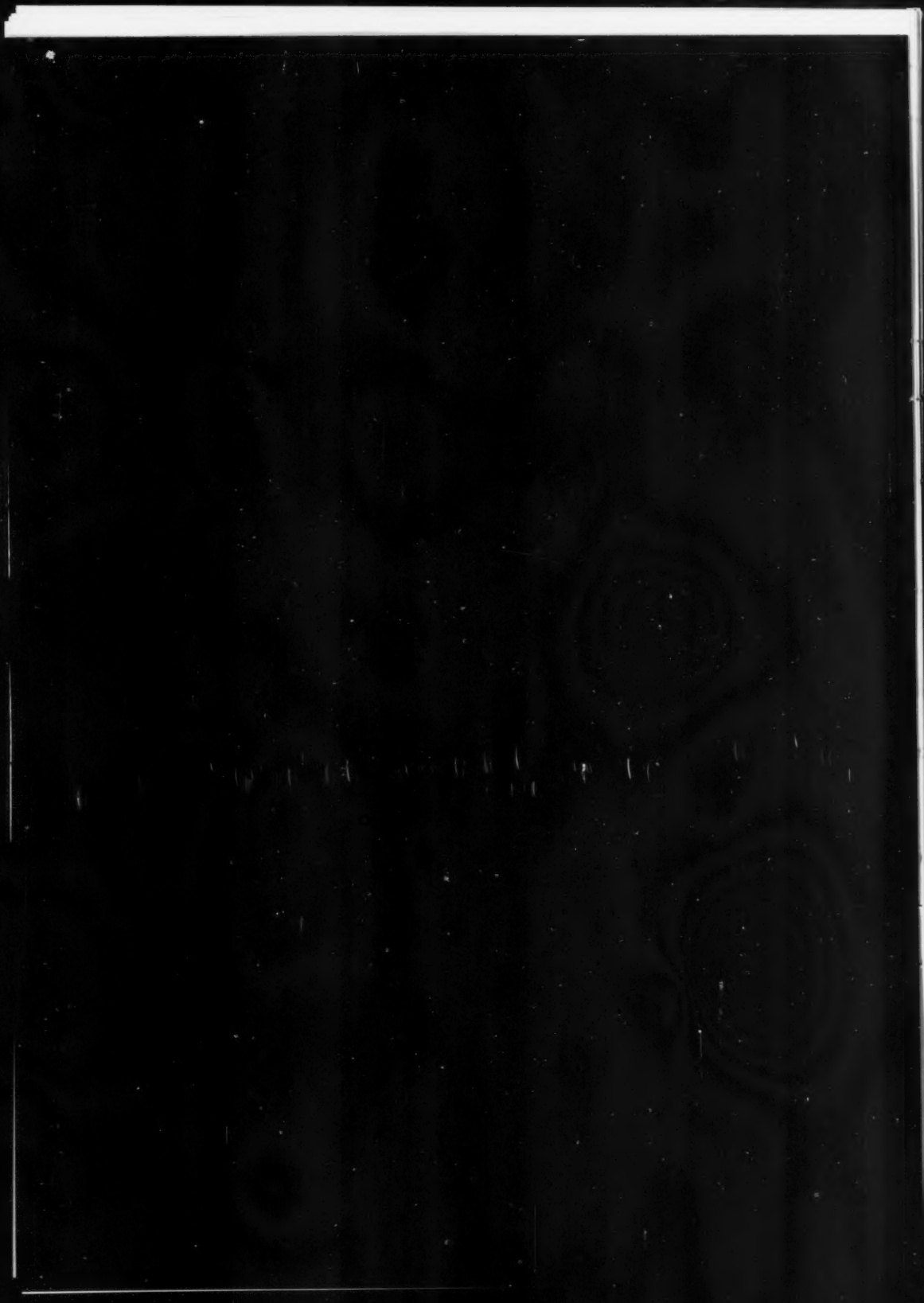
INSTITUTE OF INDUSTRIAL SANITATION

Catching the Shopper's Eye!



THE "BANKS" LABELLER

Of Unique Design and Principle. A High Speed Fully Automatic BODY LABELLING MACHINE for Cylindrical Containers, Fitted with Electric "No Bottle — No Label" Device.

Precision labelling from 2,400 — 10,200 units per hour using one label stack only.

The "Banks" Labeller is simple to operate, occupies very little space, and positions the labels positively, accurately, and without any trace of surplus gum beyond the edges of the label, irrespective of the label shape or size.

Change from one size of container to another is obtained in a matter of seconds.

Cleaning down takes only a few minutes.

All models arranged for conveyor feed, or, alternatively, Patented Automatic Infeed Rotary Tables. The machine illustrated is fitted with Patented Automatic Infeed Rotary Table and is labelling penicillin vials.

Manufactured in 6 models suitable for use in breweries, mineral water, food, cosmetic and chemical factories, and the like.

Each model will label all round or part up to the label width capacity of the machine, from ½" up to 12" wide.

MODEL B. L. M. 3 } will fix back
MODEL B. L. M. D. } and front labels

Over 1,000 machines are at work in or on order for THIRTY Countries and 174 Towns and Cities in Great Britain.

Manufactured by Morgan Fairest Ltd., Sheffield, England

fmc

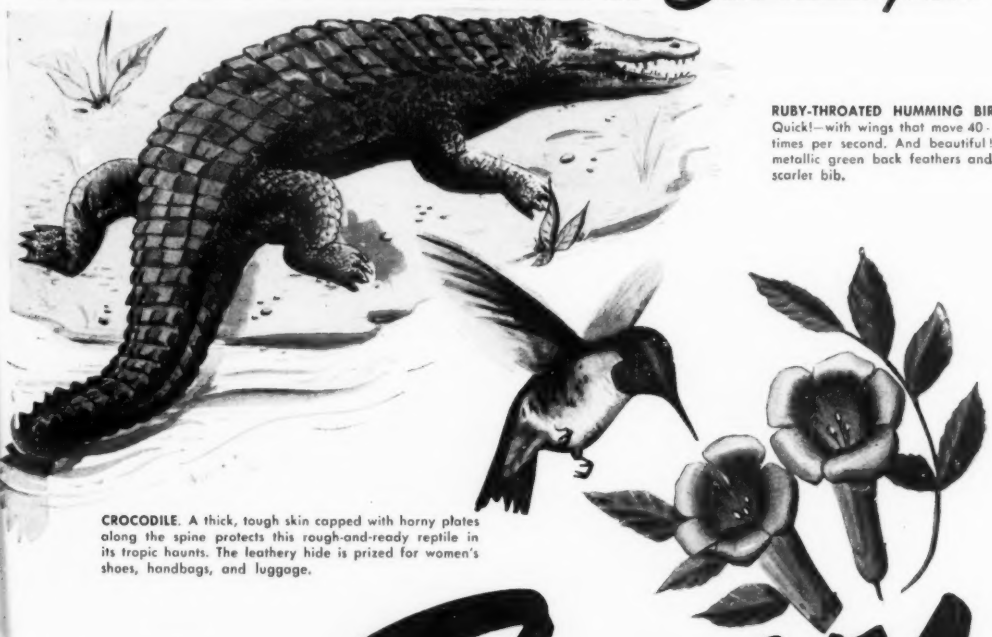
STOKE S&S SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

Frankfort • Philadelphia 24, U.S.A.

Subsidiary of Food Machinery and Chemical Corporation

PROTECTION AND *Beauty*



RUBY-THROATED HUMMING BIRD. Quick!—with wings that move 40-50 times per second. And beautiful!—metallic green back feathers and a scarlet bib.

CROCODILE. A thick, tough skin capped with horny plates along the spine protects this rough-and-ready reptile in its tropic haunts. The leathery hide is prized for women's shoes, handbags, and luggage.

KVP *Papers* for the FOOD INDUSTRY

It takes so little of the right thing to make sure your foodstuffs are clean, fresh, tasty, and wholesome, when they reach consumers. Yet it means so much to sales!

KVP Papers are the "right thing" . . . in more ways than one. Right for protection. Right for price. Right for extra sales appeal that may be added through colorful designs created and produced by KVP artists and printers.

INDUSTRIES SERVED

BAKING
Bread — Cracker
Cereal

MEAT
Packing — Locker
Retail

DAIRY
Butter — Cream — Cheese
Ice Cream — Milk

FISH • FRUIT • FROZEN FOODS
POULTRY • SHORTENING • VEGETABLE

Kalamazoo Vegetable Parchment Company
PARCHMENT • MICHIGAN

ASSOCIATED COMPANIES:
KALAMAZOO VEGETABLE PARCHMENT CO., DEVON, PENNA.
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HARVEY PAPER PRODUCTS CO., STURGIS, MICHIGAN

IN CANADA:
THE KVP COMPANY LIMITED, ESPANOLA, ONTARIO
APPLEFORD PAPER PRODUCTS LIMITED,
HAMILTON, ONTARIO • MONTREAL, QUEBEC

Ever wonder why it disappeared?

The old-fashioned country store has just about disappeared from the American scene. No more cracker barrels . . . no more milk dippers . . . no more coffee bins.

One of the principal reasons for their disappearance was the availability of modern containers such as the vacuum-pack, key-opening coffee can shown below.

Many such containers were pioneered by American Can Company during its fifty-one years of originating and improving containers to help people live better.

Canco, *the most versatile manufacturer in the industry*, will continue to pioneer improvements for its customers.

AMERICAN CANCO CAN CO.

NEW YORK
CHICAGO
SAN FRANCISCO
HAMILTON
CANADA

CONTAINERS—to help people live better

Candy

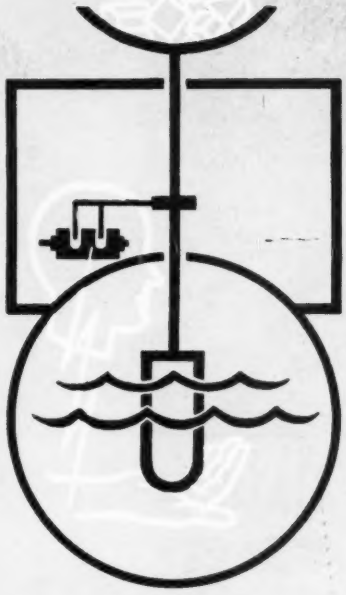
Crackers

Potato Chips
(and like products)

Cookies

Pretzels

YOUR PRODUCT MIGHT BE NEXT



Important improvements and cost-savings are being made in the weighing and filling operation on the packaging lines of several major industries.

Machines utilizing a new method of weighing are getting an accuracy at high speed previously unattainable. The new method is Hy-Tra-Lec, an exclusive development of America's pioneer packaging machinery manufacturer.

Hy-Tra-Lec harnesses the principles of "positive displacement". Unlike conventional weighers, there is no spring nor beam scale.

Investigation may indicate that other products—perhaps yours—can be handled by this modern method. An inquiry will start the search in motion for your product. Write today and let's see what Hy-Tra-Lec can do for you.

WRIGHT MACHINERY COMPANY
EST. 1893 · 500 CALVIN ST., DURHAM, N. C.
SUBSIDIARY OF THE SPERRY CORPORATION

COMPANY SALES OFFICES: JERSEY CITY · BOSTON · DURHAM KING & ANDERSON, SAN FRANCISCO
EDWIN F. DeLINE COMPANY, DENVER R. P. ANDERSON COMPANY, DALLAS SPERRY GYROSCOPE COMPANY, LTD., LONDON

SALES-BUILDERS!

Developed by Foil Kraft of Los Angeles, food trays like these made of Kaiser Aluminum Foil more than doubled sales of enchiladas for XLNT Spanish Foods Company. Here's why:

More convenient—Cooked and frozen foods can be heated, evenly and rapidly, right in the tray. No transfer necessary as with cardboard containers.

Better flavor—There is no loss of taste through absorption. No pulp which can be scraped up with the food. And aluminum foil imparts no flavor.

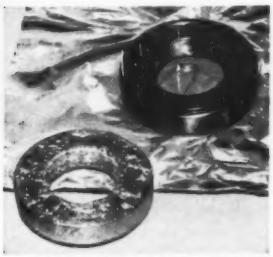
More sales appeal—Attractiveness of Kaiser Aluminum Foil catches the eye . . . reflects the quality of the product.

Longer shelf life—Kaiser Aluminum Foil retains original product quality much longer than cardboard containers . . . permits distribution over far wider area.

Consider these advantages for some of *your* customers. Call us now and we'll gladly work with you. 65 Kaiser Aluminum offices and warehouse distributors in principal cities. Kaiser Aluminum & Chemical Sales, Inc., Oakland, California.

PREVENTS DEHYDRATION—Quick-freezing of seafood in Kaiser Aluminum Foil prevents dehydration. Foil also assures standout appearance, wet strength, quick heat sealing and good cold transfer.

PROTECTS QUALITY—Kaiser Aluminum Foil prevents drying out of cheese, prevents costly weight loss. Sparkle of package immediately associates product with quality. Suggest this use to *your* customers.

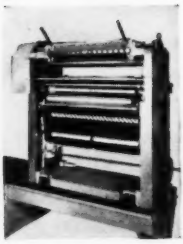


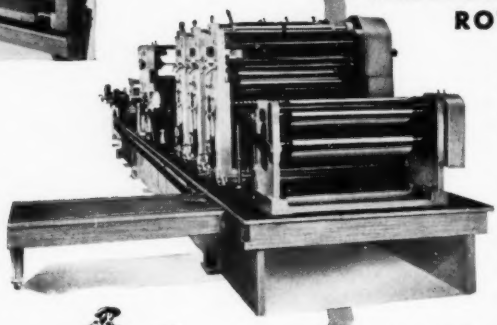
PREVENTS DETERIORATION—Ductility of Kaiser Aluminum Foil makes it easy to shape around machine parts, tools . . . protects against moisture, corrosion.

PERMITS RE-USE—Military ration packs lined with Kaiser Aluminum Foil remain moisture-proof. If only part of contents are used, air can be removed by pressure and package re-sealed again and again.

Kaiser Aluminum

Setting the pace—through quality and service





No Down Time

with this new heavy-duty, high-speed ROTARY LETTERPRESS

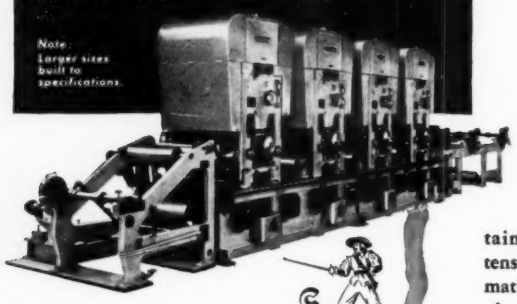
Champlain's new high-speed, heavy-duty Rotary Letterpress permits wash-up, plate changes, and set-up for the next run without press down time.

Individual color units, mounted on roller casters, are easily extracted from normal printing position to a traveling auxiliary bed permitting wash-up, plate changes, etc. while other units are running. Press sizes 26", 31", and 36". Designed with minimum/maximum printing range to meet customer's specifications. Equipment is available with from one to seven color units. Both engraving and impression cylinders can be removed for size change without disturbing press frames or inking mechanism. Write for complete information.

7462

	8"	14"	20"	26"	36"	44"
Max. print. width..	8"	14"	20"	27"	36"	44"
Max. Web width...	9"	15"	21"	28"	37"	45"
Min. Cyl. Circum. ..	9"	9"	13"	17"	17"	17"
Max. Cyl. Circum. ..	18"	18"	26"	34"	34"	34"
Production speed (with rewound roll delivery)	Up to 750 feet per minute depending on stock					

Note: Larger sizes built to specifications.



Finest Quality

multi-color rotogravure at higher speeds

The standard Champlain Rotogravure Press assures precision registration at high speeds by electric push-button control or automatically by Champlain electric eye control. Highly volatile, fast-drying inks may be used thanks to Champlain's patented "Speedry" fully enclosed ink fountain. Hydraulically controlled constant web tension from unwind through to rewind is automatic. Paper, board, cellophane, pliofilm, foil, glassine are handled with ease, and coatings, varnish, metallic and gloss inks as well as standard gravure inks may be used. Send for complete details on top quality printing at highest speeds.

7451

CHAMPLAIN COMPANY, INC.

88 LLEWELLYN AVENUE, BLOOMFIELD, N. J.

CHICAGO OFFICE: 520 N. MICHIGAN AVE., CHICAGO 11, ILL.

Champlain manufactures a complete line of rotogravure, aniline, rotary letterpress and allied equipment for packaging and specialty printing.

Packaging design goes places with

SYLVANIA® CELLOPHANE

New, more salesworthy packaging ideas are easier to come by when you keep economical Sylvania Cellophane in mind. This transparent film allows almost complete freedom in working out designs.

It comes with controlled moisture protection – in different gauges. In hand-wrapping or on high speed equipment it heat seals strongly and quickly. It can be economically printed on fast rotary presses with lustrous color effects.

Sylvania is always ready to help you with your packaging problems. Talk them over with your Sylvania representative or write to us mentioning the specific application in which you are interested. Address: Market Development, Department MP-22.

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa. *Plant:* Fredericksburg, Va.

SYLVANIA CELLOPHANE®

THAT NEW HEEKIN CAN DID IT!

Sold Our Product—Right Off The Shelf

YOUR PRODUCT . . . attractively packaged, well displayed . . . gets a real sales lift at the point-of-purchase. For more than fifty years, Heekin Lithographed Cans . . . color or plain . . . have packaged thousands of successful products. Plan now for the future. Whatever your problems—Heekin's packaging engineers and designers are standing by—ready to help solve your packaging problems. Today's competition is keener. Heekin's colorful lithographed metal cans—of all kinds—will help move your products off the shelf. Impulse buying means better packaging. Why not let Heekin work with you? There's no obligation.

HEEKIN *Lithographed* 1901 51 *Years of Service* 1952 **CANS**

THE HEEKIN CAN CO.,

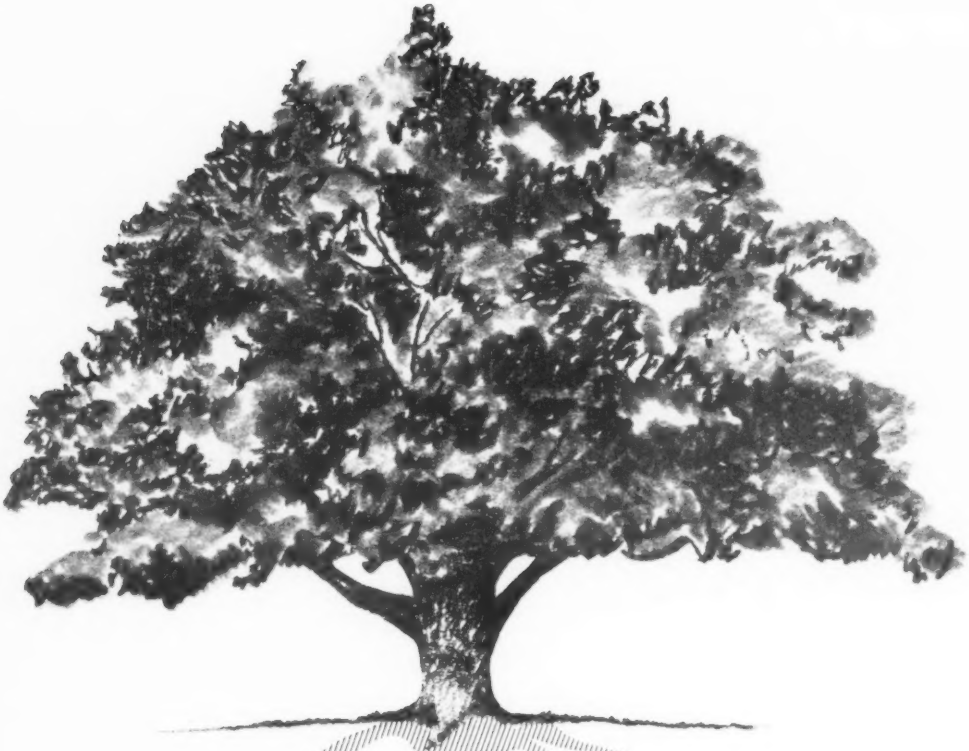
PLANTS AT CINCINNATI & NORWOOD, OHIO; CHESTNUT HILL, TENNESSEE; SPRINGDALE, ARKANSAS

IDEAS PRECEDE THE DESIGN : FOLLOWED BY FINE REPRODUCTION

SPECIALISTS *in*

color printing
gold bronzing
embossing

C. H. FORSMAN COMPANY · 318 WEST THIRTY NINTH STREET · NEW YORK 18, N.Y.



Deep are the roots of Time and Tradition.

Year by year — for over half a century — we have advanced our skill in the printing field. Our trained staff can help you solve your packaging problem.

Forsman

C. H. FORSMAN COMPANY
318 WEST 39TH STREET
NEW YORK 18, NEW YORK

JOHN H. FORSMAN
PRESIDENT AND GENERAL MANAGER

The Standard of Fine Color Printing Since 1899

NOW—For your Method II packaging

Buy and use Desiccants by the unit*

Under MIL-D-3464

Do you know these NEW DESICCANT FACTS?

1. **The new Military Specification on Packaging Desiccants MIL-D-3464 is now in effect.**
2. **MIL-D-3464 supersedes JAN-D-169 and AN-D-6c on Packaging Desiccants.**
3. **Under MIL-D-3464 you will buy and use desiccants in unit size bags instead of in pounds and ounces.**
4. **MIL-D-3464 eliminates all misleading Grade designations such as A and B.**
5. **MIL-D-3464 eliminates all chemical names of desiccants such as silica gel.**

DESICCITE 25

NOW GIVES YOU | *Less Weight • Less Volume • Lower Cost*

DESICCANT DIVISION *Filtrol* **CORPORATION**

*

DEFINITION OF UNIT

A desiccant unit is that weight of desiccant as received, which will meet one and meet or exceed the other of the two equilibrium absorption capacities stated below: (a) 3 grams of water at 25° C. and 20% relative humidity. (b) 6 grams of water at 25° C. and 40% relative humidity.

For a complete summary of all important points concerning the new specification MIL-D-3464, mail this coupon today.

Please send me new literature on specification MIL-D-3464.
FILTROL CORPORATION,
727 West 7th Street, Los Angeles 17, California

Name_____

Company_____

Street_____

City_____ Zone____ State_____

Desiccite Trade Mark of Filtrol Corp. T.M. Reg. U.S. Pat. Off.

Clearsite Plastic Containers That Sell!

place your products on dress parade

Fishing for Sales? It's always good with products packed in Star Bright Clearsite *Plastic* Selling Containers. Lure the customers—catch their eye and watch 'em buy. And, Clearsite protects your products—compliments 'em. Keeps 'em at their sales best—on Dress Parade always! Clearsite is *Shatter-proof*—eliminates normal breakage—saves cost of container and contents! It's *Featherlight*—about 1/5 the weight of glass. Slashes shipping costs. For an open season in year 'round sales, send for descriptive literature—you'll save three ways.

CELLUPLASTIC NEWARK, N.J.

Not genuine Clearsite unless stamped with CELLUPLASTIC name as shown.

ONLY Clearsite PLASTIC CONTAINERS GIVE YOU ALL THESE SALES FEATURES

Distinctive • Moisture-tight • Resistant to alkalis, alcohols and weak acids • Labels processed beautifully • Perfectly transparent • A wide selection of colors • A broad range of standard sizes • Caps as you want them—friction-fit or screw type • Protection against tarnishing and shopwear.

Clearsite ... is foresight

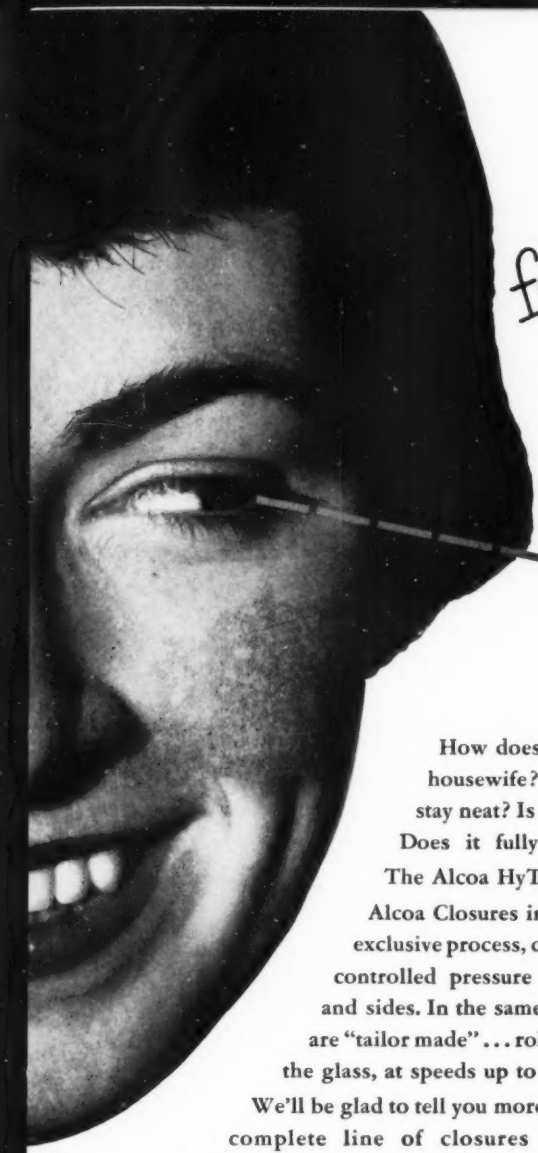
Address Dept. C-2.

CELLUPLASTIC Corporation

General Offices: 50 Avenue L, Newark 5, N. J.

Milwaukee • Los Angeles • Detroit • New Haven • Cleveland • Denver • Minneapolis • Cincinnati • Atlanta • Dallas • Chicago • Jacksonville • St. Louis • San Francisco • Phoenix • Seattle • Portland • Richmond • Montreal • Toronto •

for a good impression start at the top

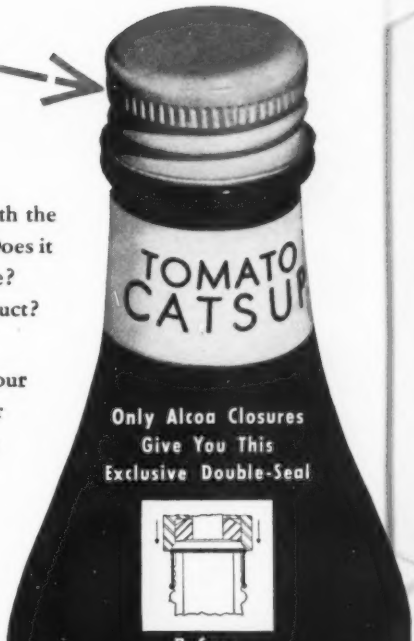


How does *your* closure rate with the housewife? Does it stand out? Does it stay neat? Is it easy to open—close? Does it fully protect your product? The Alcoa HyTop does!

Alcoa Closures invite repeat sales. In our exclusive process, caps are applied under controlled pressure that seals both top and sides. In the same operation, threads are "tailor made"... rolled-on to match the glass, at speeds up to 400 a minute.

We'll be glad to tell you more about Alcoa's complete line of closures and sealing machines, their availability under existing government limitations. Write for our free catalog, or call your local Alcoa Sales Office, listed under "Aluminum," in your classified telephone directory.

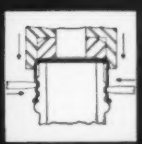
ALUMINUM COMPANY OF AMERICA
17058 Gulf Building • Pittsburgh 19, Penna.



Only Alcoa Closures Give You This Exclusive Double-Seal

Before

The Hytop is made with straight-sided skirt, then applied by an Alseco Sealing Machine under controlled top pressure.



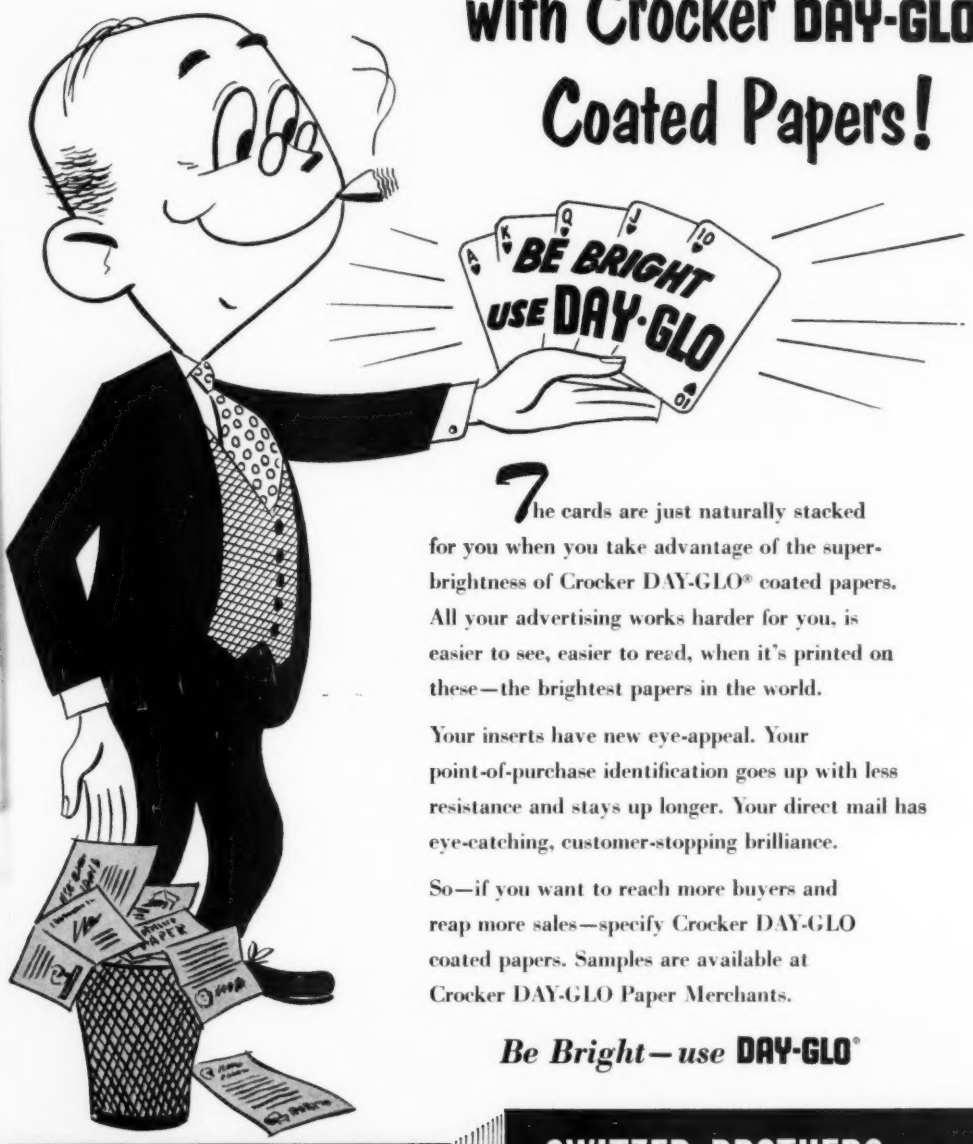
After

Top and side seal are made, then rollers form threads to the exact contour of glass.

ALCOA
ALUMINUM
ALCOA CLOSURES
FORMERLY SOLD AS ALSECO SEALS

"SEE IT NOW," with Edward R. Murrow, brings the world to your armchair...CBS-TV every Sunday--3:30 P.M. EST

Reach 'Em and Reap with Crocker DAY-GLO® Coated Papers!



The cards are just naturally stacked for you when you take advantage of the super-brightness of Crocker DAY-GLO® coated papers. All your advertising works harder for you, is easier to see, easier to read, when it's printed on these—the brightest papers in the world.

Your inserts have new eye-appeal. Your point-of-purchase identification goes up with less resistance and stays up longer. Your direct mail has eye-catching, customer-stopping brilliance.

So—if you want to reach more buyers and reap more sales—specify Crocker DAY-GLO coated papers. Samples are available at Crocker DAY-GLO Paper Merchants.

Be Bright—use **DAY-GLO®**

CROCKER, BURBANK PAPERS
INCORPORATED
FITCHBURG • MASSACHUSETTS

SWITZER BROTHERS, INC.
4732 ST. CLAIR AVENUE
CLEVELAND 3, OHIO

The Better the Product

the more important that it have a well designed and constructed container.

CLEVELAND CONTAINERS

are made in sizes to meet one's exact needs.

They are sturdy to protect against careless handling. We design them to meet your packaging and shipping requirements, as well as other various uses.

For example—with pouring plugs—turn sifter tops—pouring spouts and for other similar applications.

Ask also about our heavy-duty Containers with reinforced ends that eliminate loss in transit.

PROMPT DELIVERIES

Fast production facilities from our strategically located plants.

See our Exhibit No. 540 at the AMA National Packaging Exposition April 1-4 at Atlantic City.

Send for our latest literature

The CLEVELAND CONTAINER Co.

6201 BARBERTON AVE. CLEVELAND 2, OHIO

- **All-Fibre Cans • Combination Metal and Paper Cans**
- **Spirally Wound Tubes and Cores for all Purposes**

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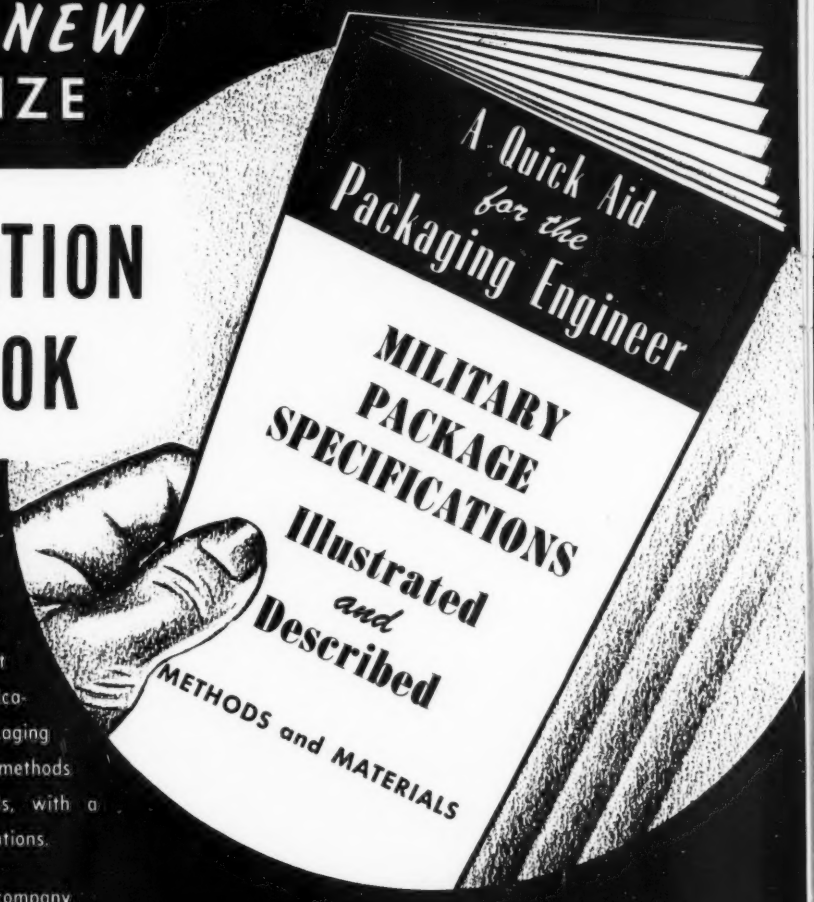
Military Packaging Engineers...

GET THIS *NEW* POCKET SIZE

SPECIFICATION HANDBOOK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MILITARY PACKAGE SPECIFICATIONS
Illustrated and Described
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Vanant, one of America's leading converters of military packaging materials, now makes available to the packaging industry a practical, easy-to-read compilation of the most generally used government specifications on the preservation and packaging of defense materials. Includes methods (clearly illustrated) and materials, with a ready index to individual specifications.

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VANANT PRODUCTS 730 W. Virginia St.,
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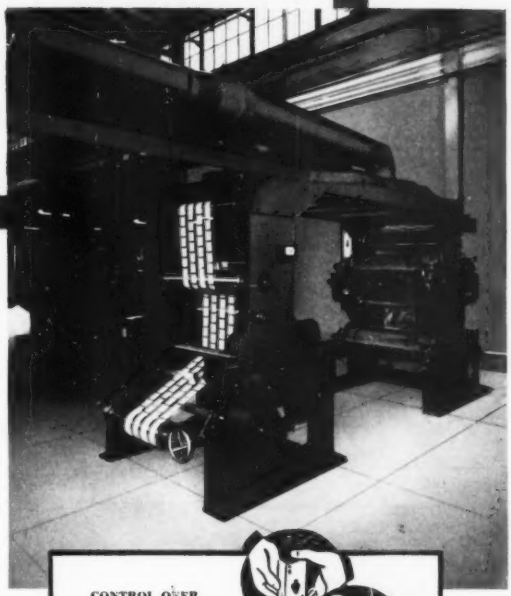
New 30"
ANTI-FRICTION CELLOPRINTER

Increases Production at least 20%

Semi-automatic web-splicing units plus speeds up to 500 ft per minute make this Kidder Press outstanding



Combining the best features of time-tested Kidder Aniliner and Celloprinter presses with revolutionary new features, this entirely new machine promises you record-breaking production in high-quality, four-color Cellophane printing up to 32" web and printing width up to 30".

NEW WEB-SPLICING DEVICE

Operating at speeds up to 500 feet a minute, this Kidder Anti-Friction Celloprinter allows you to make all-day runs at normal press speeds without stopping for roll changes. That's because of *new semi-automatic web-splicing units at both unwind and rewind ends.* Any skilled press operator can learn to handle this web-splicing device in only a few hours. Think what this feature alone will mean to your production. A 10% increase is a conservative estimate. (These new web-splicing units are also available for Kidder 24" Celloprinter presses.)

OTHER PRODUCTION-BOOSTING FEATURES

- **A One-Man Press**—a single hydraulic control valve allows operator to release all the plates from the web.
- **Easy to register**—handwheel adjustment of lateral and longitudinal register is 3/16" in either direction . . . *operable while press is in motion.*
- **Special drying system**—not only dries the completely printed web, but also provides for partial drying in-between colors.

CONTROL OVER THE PAPER

PROPER DISTRIBUTION OF INK

ACCURACY OF THE IMPRESSION

KIDDER
THREE POINT
PRESS

KIDDER

Manufacturer of "3 Point" Presses—so-called because they fulfill the three major requirements for perfect printing.

WRITE FOR SPECIFICATIONS AND COSTS

This new Kidder 30" Anti-Friction Celloprinter Press is so outstanding that you'll want to read all about it. Write today.

KIDDER PRESS COMPANY, INC.

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A. E. MARCONETTI, INC.
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A Star Quartet of Economical, Sales-Building Packages for Your Products

Bemis Deltaseal®

—This long-time favorite has exclusive pull-cut-pour spout. Billboards your brand . . . and flat tops and bottoms help build excellent mass displays.

Bemis Deltaphane®

—If your trade prefers a window package, Bemis Deltaphane, with the "picture window," is your best bet. Your brand in crisp, bright colors on all four sides. Has the pull-cut-pour top, too.

Bemis Cellophane

—There's an increasing demand for the *show window* bags—Bemis Cellophane. Bemis' bright, eye-catching printing makes your brand shine like a headlight.

Bemis Flexi-Carton®

—Sturdy, gusseted bag, single-, 2- or 3-ply. A fine shelf package, with your brand printed on all sides. Closures: sewing, taping, stapling, pasting.

Here's another bonus for you . . . Bemis Deltaseal Packaging System closes all of these types of bags (except Flexi-Carton), so you can meet the varied demands of your trade. Deltaseal Packaging System is the most economical packaging operation for you . . . *proof on request.*

Bemis is also your best source for Burlap, Cotton, Multiwall, Paper and Waterproof Bags. Ask your Bemis Man for the complete story.

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a light in the dark

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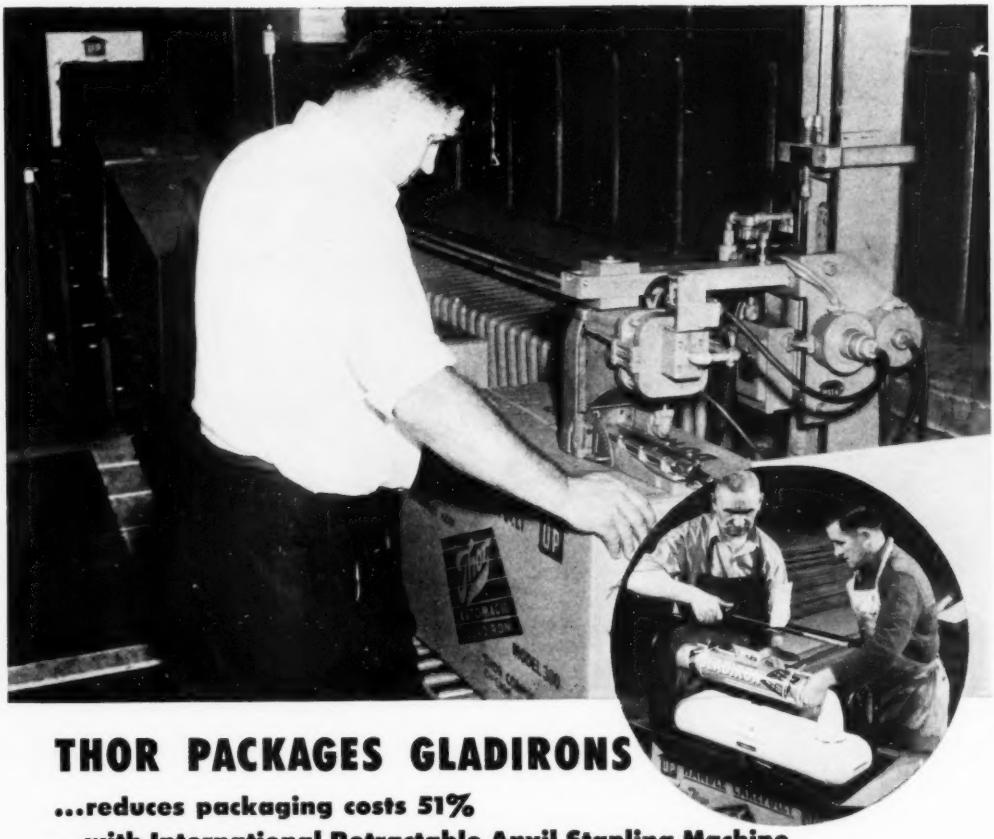
TRADE MARK UNION

UNION'S MODERN PLANT AT HUDSON FALLS, N. Y. BILLION-BAG SPECIALTY PACKAGING HEADQUARTERS



THOR PACKAGES GLADIRONS

...reduces packaging costs 51%
...with International Retractable Anvil Stapling Machine

Thor Corp., Chicago, formerly packaged its 75-lb. Gladiron in a wire-bound wood-veneer box. Now, it goes to market in a corrugated carton, securely stapled shut from the *outside* . . . top and bottom simultaneously . . . with only eight staples.

Look at these advantages . . . savings in time and money!

- ★ The new package eliminates the need for metal banding and nails . . . reduces time and material costs . . . minimizes chance of cuts and scratches to packers and handlers.
- ★ Complete packaging operation takes only two men . . . not six, as before.
- ★ No inside strapping is needed . . . chance of damage to Gladiron from broken strapping ends is eliminated.
- ★ The corrugated carton weighs less . . . costs less to ship.
- ★ The new package looks better . . . and your advertising message can easily be printed on its smooth surface.

An International Retractable Anvil Staple Machine can reduce your costs, too. Investigate the more than 30 International models.

Featuring:

Exclusive patented Retractable Anvil.

Ability to handle a flow of various cartons to a central closure point.

Large, sturdy, patented International staples permitting closure with eight staples (approved by the Consolidated Freight Classification and Post Office Dept.).

Ability to close cartons simultaneously from the top and bottom after filling.

●

WHAT'S YOUR CLOSURE PROBLEM? LET US SUGGEST AN EFFICIENT, ECONOMICAL SOLUTION

INTERNATIONAL STAPLE & MACHINE CO.

HERRIN, ILLINOIS ★ *Distributors in principal cities*

HEADACHES are TABOO

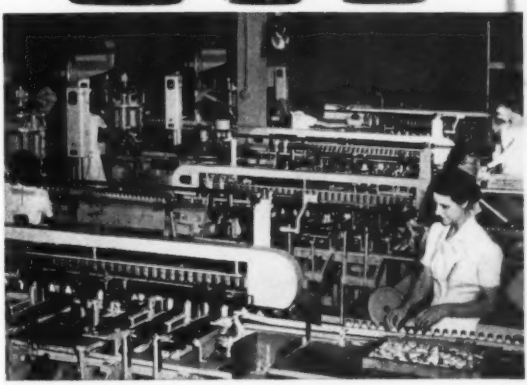
when BAYER aspirin and PNEUMATIC machines go to work

WHEN a headache or pain plagues you, chances are you chase it—and fast—with famous Bayer Aspirin. You and millions of others! That means a big volume packaging job for STERLING DRUG, INC. who make and market this popular remedy.

Like other leaders in the pharmaceutical field STERLING avoids annoying and expensive production headaches by capping and labeling with Pneumatic machines. Day in and day out their Pneumatic equipment does the job with smooth running, unfaltering efficiency. You'll start to save money, too, from the very first day you employ Pneumatic machines to perform at "lower cost per container" in your plant.

★ ★ ★

PNEUMATIC SCALE CORP., LTD., 82 Newport Ave., Quincy 71, Mass. *Branch Offices: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.*



Installation of Pneumatic Labeling and Capping equipment at The Bayer Co., Division of Sterling Drug, Inc., Trenton, New Jersey.

PNEUMATIC **PACKAGING AND BOTTLING MACHINERY**

PROTECT YOUR PRODUCT FROM LIGHT

. . . with tailor-made Riegel papers

A few things RIEGEL can do for you . . .

- Keep products dry
- Keep products moist
- Retard rancidity
- Retard mold
- Seal with heat or glue
- Provide wet strength
- Stop grease penetration
- Retain aromas, flavors
- Resist extreme cold
- Reduce breakage
- Prevent sifting
- Protect from light
- Resist alkalis
- Resist corrosion
- Boost machine efficiency

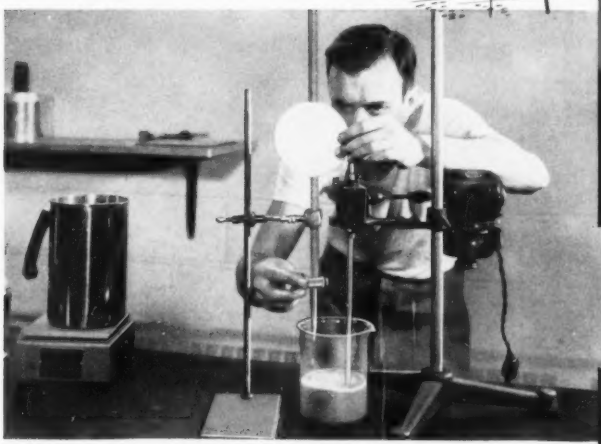
PRODUCTS that can be spoiled by exposure to light present a serious problem in functional packaging . . . but it's a problem that has been solved many times by special Riegel Papers . . . for products ranging from X-ray film, where all light must be excluded, to potato chips, where only certain harmful rays of the spectrum must be retarded. What is right for one product is seldom right for another. But whatever you need, Riegel can usually tailor-make the right paper . . . quickly, efficiently and economically. Just tell us what you want paper to do for you. *Riegel Paper Corporation, P.O. Box 170, Grand Central Station, New York 17, N. Y.*

Riegel FUNCTIONAL PAPERS FOR PROTECTIVE PACKAGING

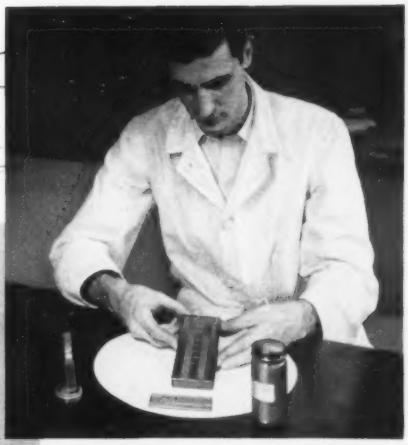
▶ WRITE FOR SAMPLE BOOK

Sentinel of Aniline Ink Quality

...BBD's Materials Testing Program



Testing aniline inks for water tolerance. Unless tolerance to moisture is sufficiently high ink may "kick out" when used under humid conditions.



Fineness of grind is an important measure of ink quality. Pigments must be ground completely to develop their full color strength — all pigment particles must be thoroughly wetted to guard against "piling on the plate." Here the Grind Gauge is used to check a sample of ink against the BBD quality standard.

Making high-grade aniline printing inks at BBD is more than just knowing *how*. It's a matter, too, of knowing *what* raw materials to use in their formulation. Every chemical, every pigment, every solvent that goes into BBD inks is thoroughly tested before it is even considered for use. This quality control step in BBD's inkmaking procedure is a costly *extra* ingredient you never see — but it is your assurance of inks that give trouble-free performance and superior results *consistently*.

Measuring pH — relative acidity or alkalinity — of a new raw material in BBD laboratory. Control of pH value assures inks with good working properties and long shelf life.

BBD ink chemist testing pigments to determine their bleed resistance to water, solvents, wax, food fats, overprint lacquers, etc. Bleed test ranks first in importance when formulating aniline inks for food packages.

Find out how BBD Aniline Inks can help you do a better printing job... write today to *Bensing Bros. & Deeney, 3301 Hunting Park Ave., Philadelphia 29, Pa.*

Bensing Bros. and Deeney
SALES COMPANY
World's Largest Makers of Aniline Ink
PHILADELPHIA • CHICAGO • WAKEFIELD, MASS.
Pacific Coast: A. M. BOJANOWER, Los Angeles
Export: McLAURIN-JONES CO., New York
Canada: MANTON BROS., Toronto

Patapar does so many packaging jobs so well!

Patapar Vegetable Parchment has high wet-strength. It is boil-proof. It resists grease. It is odorless, tasteless, sanitary. Its texture, rich and beautiful.

Patapar is ideal for wrapping and packaging butter, bacon, frozen foods, poultry, celery, lard, ice cream, margarine, machine parts, putty, spark plugs and many other products. Patapar is furnished plain or beautifully printed with brand names and colorful designs.

Standard weights and types of Patapar are ideal for most uses. When unusual problems arise, we are glad to recommend special types. All told, there are 179 different types of Patapar, tailored to meet exacting requirements.

Tell us your problem and we'll send information plus a copy of Booklet T, "The Story of Patapar."

This Keymark, nationally advertised symbol of wrapper protection, can be included on printed Patapar wrappers.

Patapar
REG. U.S. PAT. OFF.
HI-WET-STRENGTH
GREASE-RESISTING PARCHMENT

Paterson Parchment Paper Company • **Bristol, Pennsylvania**

Headquarters for Vegetable Parchment since 1885

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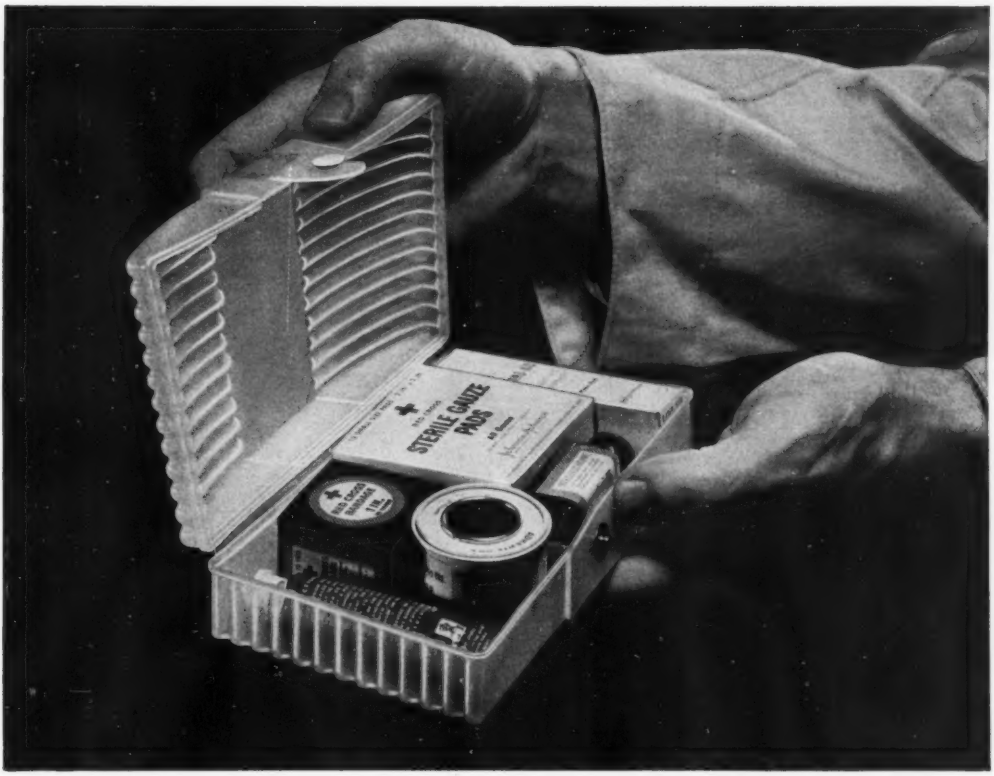
Sales Offices: 122 E. 42nd Street, New York 17, N. Y. • 111 W. Washington St., Chicago 2, Ill.



New first aid kit of Du Pont "ALATHON" has self-hinge . . . is molded in one piece

It's another packaging improvement made possible by the outstanding properties of "Alathon"

Lid, *hinge* and tray—all three parts of this new first aid kit are molded in one piece of Du Pont "Alathon"* polythene resin. Specifically designed for the self-hinge feature, "Alathon" had the necessary properties to mold the kit successfully.

"Alathon" is strong and tough—even in flexible sections as thin as this hinge. Flexed time after time, the hinge remains unharmed. And "Alathon" is readily molded into intricate shapes. This kit, for example, features a ribbed lid, the hinge, and a ribbed, sectioned tray—all molded in one piece in one operation.

"Alathon" contains no plasticizer yet combines light weight and toughness even in thin sections. It is odorless, tasteless, non-toxic, and inert to most packaged goods at room temperatures. Because of this unique combination of properties, "Alathon" is used for many different applications in the packaging industry. Closures and other components are economically injection-molded of "Alathon" to close tolerances. In addition, "Alathon" is widely used as a coating for paper. Blended with waxes, it improves the heat-sealing characteristics, appearance and scuff-resistance of waxed papers.

We suggest you investigate the properties of "Alathon" for your future packaging application. We'll gladly discuss the availability of quantities for development work. For further information, write:

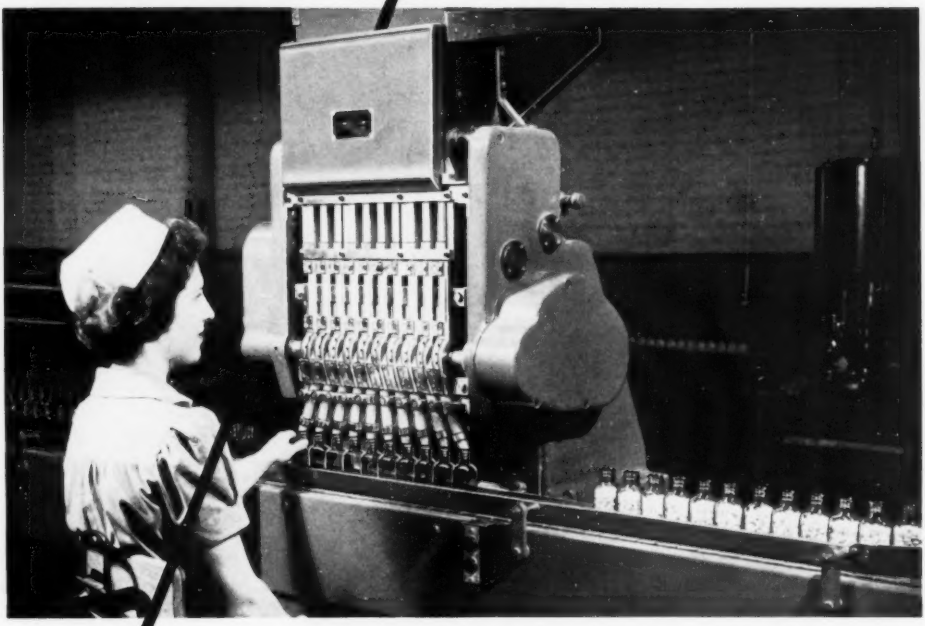
E. I. du Pont de Nemours & Co., Inc.
Polychemicals Department
350 Fifth Avenue, New York 1, New York
7 S. Dearborn Street, Chicago 3, Illinois
845 E. 60th Street, Los Angeles 1, California

Kit molded by Auburn Button Works, Auburn, N.Y. for Johnson & Johnson, New Brunswick, N. J.

*REG. U.S. PAT. OFF.

DU PONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY
Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS

The Choice is US



The Arner Company Packages Billions of Tablets with the Fully Automatic Model TBS

Fast, accurate and safe bottling of billions of tablets annually is the complex production problem that the Model TBS successfully solved for the Arner Company. This fully automatic tablet counting and filling machine, developed by ***US,*** unerringly and rapidly fills not only bottles but also cartons, or cans with any desired count of pills or tablets. Mechanically counting and dropping tablets into the container, the Model TBS is capable of producing up to 150 filled bottles per minute. Its unique design handles tablets with such care that breakage or powdering is almost non-existent. Also because of the simplicity of design the Model TBS may be easily and quickly changed over to suit a wide range of requirements. For full details write ***US*** today.

US NET & GROSS WEIGHING ★ PACKAGE FORMING & FILLING ★ CARTON SEALING, LINING, WRAPPING ★ BOX MAKING

AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. ★ CARTONING MACHINERY CORP.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: New York ★ Cleveland ★ Chicago

Developed exclusively by Milprint, Mil-O-Seal Casings have saved meat processors many thousands of dollars by stopping costly shrink and spoilage of meat loaves and cooked hams. Mil-O-Seal Casings more than pay for themselves . . . and boost sales with beautiful designs in multi-color, ALL-OVER PRINTING. No other casings can match them.

★

Milprint Mil-O-Casings for liver sausage cost far less than natural casings . . . eliminate product shrinkage, slice better than other artificial casings. Multi-color, ALL-OVER PRINTING makes the brand name stand out . . . invites customers to buy!

These are two examples of many Milprint Pliofilm food packaging applications . . . examples of Milprint's far-reaching facilities and diversification.

CALL YOUR Milprint MAN FIRST

Milprint INC

PACKAGING MATERIALS

LITHOGRAPHY & PRINTING

General Offices: Milwaukee, Wis. • Sales Offices in Principal Cities

This insert printed by Milprint.

Printed Cellophane, Pliofilm, Polyethylene, Acetate, Glassine, Foils, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material.

New waterproof tapes simplify packaging

Meet Government Specifications For D.O. Packaging

EASY TO APPLY, "Scotch" Acetate Fibre Tape No. 711 forms a firm, tough, lasting seal that resists abrasion and scuffing, reinforces packages where they take the most punishment. It will stick tight on all kinds of paper or metal, conforms to uneven surfaces well. Suitable for operations covered by Government specifications JAN-P-127, Types III and IV, Grades B & C and AN-T-12A, Type II, Grades A or B.

USEFUL THROUGHOUT the plant! "Scotch" Brand Acetate Fibre Tapes speed up dozens of jobs for you ... sealing, holding, mending, coding, identifying, reinforcing. For instance, at Reading Batteries, Inc., Reading, Pa., a red acetate fibre tape is used to seal vent holes in battery caps prior to shipment. A small snip of tape seals out air and moisture until batteries are filled and ready for use at their destination.

Minnesota Mining & Mfg. Co. MP22
St. Paul 6, Minn.

☐ Please send further details about "Scotch" Acetate Fibre Tapes, including free roll for testing purposes.

☐ Have a Tape Engineer call.

Name.....

Firm.....

Address.....

City.....Zone....State.....

FREE! Send this coupon today for your test roll of "Scotch" Acetate Fibre Tape. We will also have a Tape Engineer call and assist you with any packaging problem you may have. No obligation, of course.

The term "Scotch" and the plaid design are registered trademarks for the more than 100 pressure-sensitive adhesive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: Minn. Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y. In Canada: Minnesota Mining & Mfg. of Canada, Ltd., London, Canada.

everyday.

metal containers are proving their worth more and more to the merchandiser and consumer.

the durability of a metal container alone saves packaging grief in "breakage" when shipping and handling.

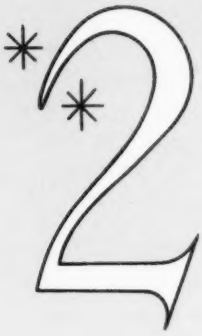
freshness, as well as keeping a product dry, also, are great factors in the growing popularity of metal containers.

our ability to create new designs to suit at your disposal, or your personal design can readily be adapted to our line of containers.

stock sizes in plain and lithographed designs also are available.

brochure and quotations sent upon request.

OLIVE CAN COMPANY
MANUFACTURERS OF PLAIN AND LITHOGRAPHED CANS
450 NORTH LEAVITT STREET — CHICAGO 12, ILLINOIS

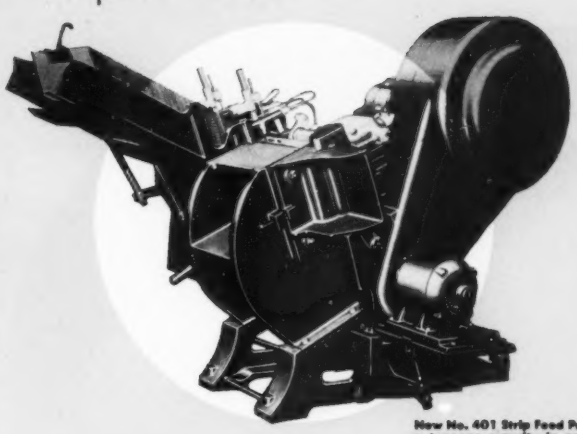


great new machines by HAMILTON

All the "know-how" we've accumulated in developing the world's most complete line of can making machinery has gone into these two new machines. In every way they represent the very last word in advanced engineering. They're streamlined, sturdier, faster, more accurate—designed to give you higher production, fewer rejects, far less downtime.

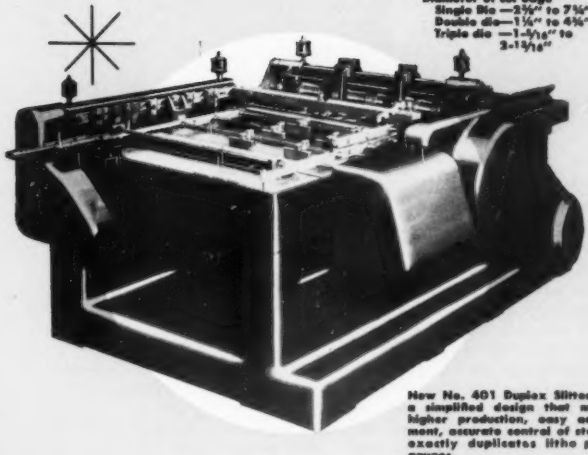
Even if your present presses and slitters are relatively new—perhaps only three or four years old—it will pay you to investigate these two new Hamilton machines. You'll find the faster speeds and the increase in product quality will definitely cut your production costs—and easily justify the replacement.

Why not write today for *full* technical information—or for a demonstration?



New No. 401 Strip Feed Press has a tonnage capacity in excess of rating—easily handles warped and buckled sheets, slide and gib design greatly increases die life.

Rated at 25 tons
Length of strip up to 36"
Diameter of cut edge
Single die —2⅞" to 7¼"
Double die—1⅛" to 4¾"
Triple die —1-9/16" to 3-15/16"



New No. 401 Duplex Slitter has a simplified design that means higher production, easy adjustment, accurate control of stock—exactly duplicates litho press gauges.

Sheet width up to 36"
Sheet length up to 36"
Cuts up to 70 sheets per minute

LIMA-HAMILTON DIVISION

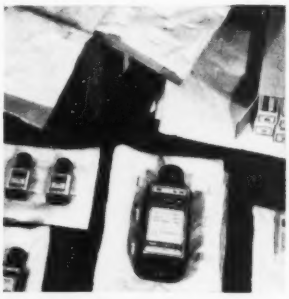
Hamilton, Ohio

BALDWIN - LIMA - HAMILTON

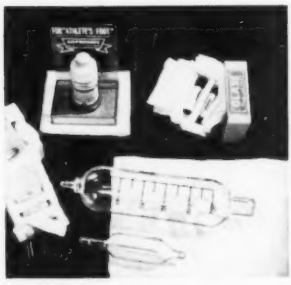
Philadelphia 42, Pa. • Offices in Principal Cities

Custom Protection —the safe, smart way to package pharmaceuticals

ACTHAR, prepared by Armour Laboratories, Chicago, Ill.



Assorted Shipments, Parke, Davis & Company, Detroit, Michigan.

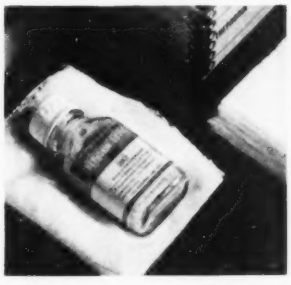


Assorted Pharmaceuticals, prepared by Wyeth Inc., New York, N. Y.

How easy it would be for these costly medical supplies—or any pharmaceutical product—to arrive at their destinations unfit for use! Shock, vibration, moisture—any one or all of these hazards could cause irreparable damage to a single shipment. Yet damage rarely occurs because so many manufacturers have found the safe, positive protective measure in Kimberly-Clark Interior Packaging—KIMPAK*. It provides *custom protection* for any kind of pharmaceutical.

KIMPAK is soft, clean, feather-light—as easy to apply as wrapping paper. Because KIMPAK will absorb up to 16 times its own weight in moisture within 30 seconds, it is widely used as an absorbent packaging material in the mailed sampling of liquids to physicians. Available in rolls, sheets or pads, there is a specification for every conceivable problem, whether you package pills, tablets, capsules, or liquids in bottles, tubes, vials, ampoules. But KIMPAK not only acts as a cushion to float your product to market damage-free, it also serves as a decoration to make—and *keep* your package attractive.

For complete information and help regarding your packaging operation, write to Kimberly-Clark Corp., Neenah, Wisconsin.



Thephorin Lotion, prepared by Hoffman-LaRoche, Inc., Nutley, N. J.

Kimberly-Clark
INTERIOR PACKAGING

Are you missing the most important part of this picture?

In your merchandising plans, are you overlooking the importance of the package at point of sale? Surveys in supermarkets show that 69% of all decisions to buy baked goods are made *after the shopper enters the store.* So the major selling responsibility rests with the package itself.

To make the most of today's point of sale opportunities many packagers are finding Du Pont studies of consumer buying habits most valuable. These Du Pont market research findings can help you evaluate the sales appeal of your package. One survey, for example, shows the store decision ratings of over 60 different food classifications . . . compares your product with others.

Technical research is another Du Pont service that's constantly at work, testing packages, improving films and developing new ones—to furnish you packaging that meets all the demands of modern food retailing.

Your Du Pont representative will be glad to keep you up to date on Du Pont packaging services and show you how they apply to your business.

E. I. du Pont de Nemours & Co. (Inc.), Film Department, Nemours Building, Wilmington 98, Delaware.

DuPont Cellophane

Shows what it Protects—Protects what it Shows

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

HONOR GUARD

Dodge milbossed-top corks guard Italian Swiss Colony Wines—the brand that won 140 awards for excellence! This happy fact is not a result of happen-stance. Dodge corks were chosen for three major reasons:

First, they provide a *positive seal* and a *positive re-seal*—protect the delightful flavor from first drop to last.

Second, they are *easily removed* and *replaced*—offer utmost convenience to the user.

Third, they are *attractive*—accent the good looks of the entire package.

Dodge Milbossed-top Corks do everything a closure should do, and they do it well! That's why the makers of award-winning wines choose Dodge. Why you, too, should choose them. Standard or custom designs in various colors can be supplied in any size.

Remember, your product deserves the *positive protection* of a Dodge Cork Closure. Write for information and prices.

DODGE CORK COMPANY INC., LANCASTER, PA.

Dodge

CORK CLOSURES

DESIGNED TO GUARD THE INTEGRITY OF THE CONTENTS

Proud of Your Product? Proud of Your Name?

Data courtesy Consolidated Lithographing Corp. Glen Cove and Voice Roads, Carle Place, Long Island.

DRESS THEM UP WITH COATINGS BASED ON VINYLITE *BRAND RESINS*

Labels coated with VINYLITE Brand Resins look brighter and cleaner because they *are* brighter and cleaner. The printing shines with a fresh, high gloss, proof against dirt and abrasion. In store or home, your label will always stand out, always look its best.

Coatings based on VINYLITE Brand Resins resist oil, alcohol, alkalies and most strong acids. They're flexible and tough—won't crack or peel—take a lot of handling and scuffing. Best of all, they transmit these qualities to whatever they cover—paper, cardboard, or foil.

Consequently, you can use them on packaging and display materials, too. They come in a wide range of easily cleaned, transparent and translucent colors. They won't affect folding endurance and are readily heat-sealable. Apply them with conventional roller-coating or spray equipment.

No wonder VINYLITE Resins are used in scores of products for defense and basic industry! Better look into coatings based on them now. For technical information and a list of suppliers, write Dept. LX-55.

Be sure to visit
BAKELITE'S EXHIBIT
at the
PACKAGING SHOW
Convention Hall, Atlantic City
April 1-4

Vinylite
BRAND
RESINS

TRADE MARK
BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N.Y.

Good Things Come in

R. C. Fibre Cans

~~Small Packages~~

Many of the better things of life — food, beauty, health, comfort — reach millions of people every year in attractive, convenient R. C. Fibre Cans.

Years of packaging experience, combined with constant study and research, enable R. C. Engineers to spot product characteristics quickly — adapt them to the most profitable and efficient packaging possible.

Whether your problem is one involving functional features (for easier filling, handling, displaying), or eye-appealing design for faster sales—R. C. provides you with a one-stop packaging service.

R. C. Packaging Makes a Good Product Better.

R·C· CAN COMPANY

R. C. CAN CO. The Stamp of Quality ST. LOUIS, MO.

MAIN OFFICE and Factory **103 Chambers St., St. Louis 6, Mo.**

Branch Factories: **Arlington, Tex.; Rittman, O.; Turner, Mo.**

SALES OFFICES

C. E. DOBSON, 819 Carondelet Bldg., New Orleans 12, La. R. C. CAN CO., 225 West 34th St., New York, N. Y. L. C. MORRIS Co., 1125 Spring St., N.W. Atlanta, Ga. S. W. SCOTT, 906 McCall Bldg., Memphis 3, Tenn. E. F. DELINE CO., 224 W. Alameda, Denver 9, Colo. W. L. BENNETT, 126 S. Third St., Minneapolis 1, Minn. CAN SUPPLY CO., 1006 W. Washington Blvd., Los Angeles, Calif. GARRETT P. KELLY, 1300 E. Park Pl., Milwaukee, Wisc.

Power mowers in February?

Of course it will be a while before power equipment for lawns and gardens again becomes of major interest to homeowners in many parts of the country.

But it's none too soon for manufacturers and printers alike to be busy preparing the instruction booklets that will help millions of purchasers become satisfied owners. For manufacturers know the importance of combining accurate reproduction of their products with simple, concise directions that assure easy operation for everyone.

Whether your instruction material calls for production by letterpress, lithography, or rotogravure, you'll find it pays to select Oxford quality papers from the wide variety of coated and uncoated grades.

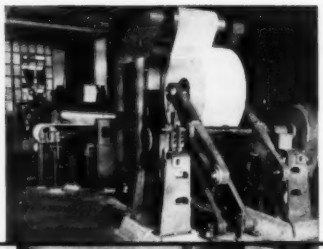
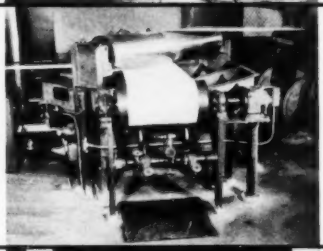
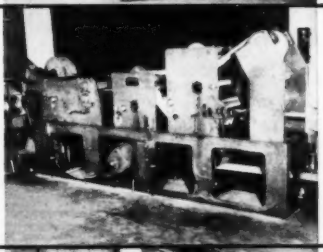
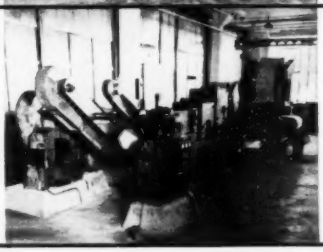
OXFORD PAPERS
Help Build Sales

OXFORD PAPER COMPANY
230 Park Avenue, New York 17, N. Y.

OXFORD MIAMI PAPER COMPANY
35 East Wacker Drive, Chicago 1, Ill.

Mills at Rumford, Maine, and West Carrollton, Ohio

DILTS *RECIPE* FOR LAMINATED BOARD

INGREDIENTS		SAVINGS
Take one roll of board, load into Kohler two arm reel.		Continuous operation. No production time loss. Constant tension. No shaft expense.
Lead web over angle bar, and slit it in half. Take one half web out high, and one half out low, one over the other.		Halves roll changes. Halves roll handling. Halves telescoping troubles. Reduces slitting costs.
Apply adhesive to one side, and laminate the two halves. Set adhesive and slit into ribbons.		Controlled adhesive coating weight. Air actuated press rolls. Slit in same operation.
Center wind on mandrel. Unload full roll from Kohler shaftless two arm winder while next roll is winding. Laminated board is now ready for next process.		Continuous operation. No production time loss. Constant tension. No delamination. No shaft expense.

Full particulars on request; also any required information on other Dilts converting equipment—waxers, coaters, contracoaters, embossers, foil laminators, etc.

Dilts **DILTS MACHINE WORKS, Fulton, New York**

SHARTLE BROTHERS MACHINE CO., Middletown, Ohio
Divisions of THE BLACK-CLAWSON COMPANY, Hamilton, Ohio
Western Sales Office: Mayer Building, Portland, Oregon
Southern Sales Office: 937 Coventry Rd., Decatur, Ga.
Associate: THE ALEXANDER FLECK LIMITED, Ottawa, Canada
Subsidiary: B-C INTERNATIONAL, LTD., Greener House, 66/68 Haymarket, London S.W. 1, England

people want

Fine

Paper Boxes

Rowell

makes

them

PRESCRIPTION BOXES

COSMETIC BOXES

E. N. Rowell Co. Inc.

Manufacturers of Fine Paper Boxes

BATAVIA, N.Y.

From Whistle to Whistle
(dawn to dusk)

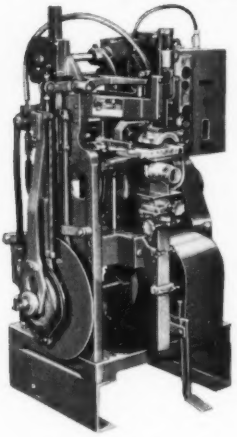
IT'S ALL PRODUCTION TIME

PUSHBUTTON "*no glue labeling*" means less downtime and greater production flow

The **CHAMPION** of all labelers

High Speed *Label-DRI*
capacity up to 300/min.

The Pony *Label-DRI**



up to 60/min.

***NO* glue to prepare**
***NO* glue mix to maintain**
***NO* glue to clean-up**
***NO* water to stretch or blister the paper**

.....perfect package appearance without skill

*Reg. U. S. Pat. Off. 909

NEW JERSEY MACHINE *Corporation*

AUTOMATIC LABELING • PACKAGING — PAPER BOX MACHINERY • MAKERS OF THE PONY LABELRITE

FACTORY SALES AND SERVICE BRANCHES
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2500 W. 6TH ST., LOS ANGELES 5, CAL.

MAIN OFFICE & FACTORY: 1510 WILLOW AVENUE, HOBOKEN, N. J.

Put yourself inside the Package when you're buying plastic closures

For performance on your production lines; for smartness on the package; for competitive prices and prompt delivery call, write or wire our Plastic Division, Bernardin Bottle Cap Co., Inc., Evansville, Indiana.

Founded 1884

ALL SIZES, ALL COLORS, ALL UNIFORM—

BERNARDIN

Shatter-Resistant

PLASTIC CLOSURES

TOPS with

TOPS in total circulation![1]

TOPS in volume of helpful editorial features![2]

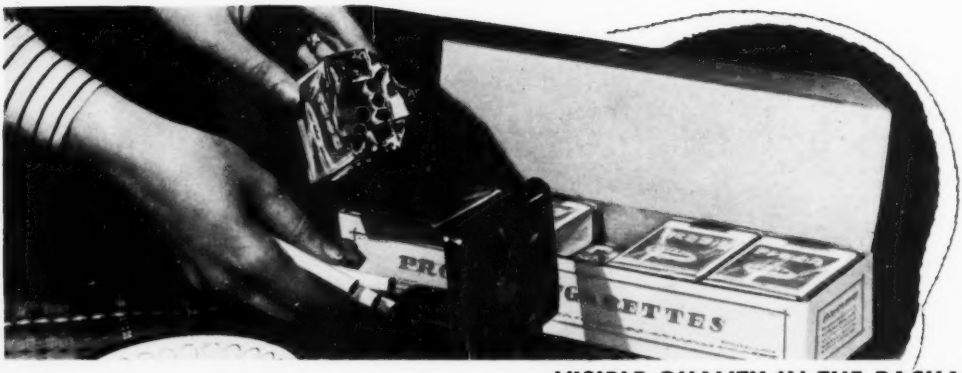
advertisers!*

TOPS in readers in the big-buying food field![3]

TOPS in appearance and printing quality![4]

**More* advertisers use *more* advertising space in MODERN PACKAGING than in *any* other publication.

1. 19,300 readers give MODERN PACKAGING a 26% lead over the field.
2. 48% more than the next highest packaging magazine.
3. By a whopping 10% margin.
4. Note the new heavier, whiter paper stock of this issue; the beautiful *five* color cover and the colorful editorial pages.



VISIBLE QUALITY IN THE PACKAGE

CAN REFLECT THE INVISIBLE QUALITY OF THE PRODUCT!

Leading Manufacturers of Tobacco Products, Recognizing that Fact,

Give Preference to

Ridgelo
CLAY COATED
REG. U.S. PAT. OFF.
BOXBOARDS

FOR FINE FOLDING CARTONS

SUPERIOR PRINTING SURFACE — ASSURED UNIFORMITY
BRIGHT FAST AND SOIL RESISTANT COLOR
HIGHER VARNISH GLOSS — BRIGHTER – SMOOTHER
CUSTOM MADE FOR EVERY ORDER — CONTROLLED COLOR MATCHING
LUSTROUS BRUSH FINISHES AND EMBOSSINGS

MADE AT RIDGEFIELD, N. J. BY LOWE PAPER COMPANY

Representatives

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Philip Rudolph & Sons, Inc., Philadelphia
A. E. Kellogg, St. Louis
Norman A. Buist, Los Angeles

GREAT IDEAS OF WESTERN MAN
. . . ONE OF A SERIES

Socrates ON DOING RIGHT OR WRONG

A man who is good for anything ought not to calculate the chance of living or dying; he ought only to consider whether in doing anything he is doing right or wrong. . . . For neither in war nor yet at law ought I or any man to use every means of escaping death. . . . The difficulty, my friends, is not to avoid death, but to avoid unrighteousness. . . . Wherefore, O judges, be of good cheer about death, and know of a certainty that no evil can happen to a good man in life or after death.

(From Plato's *Apology*)

CONTAINER CORPORATION OF AMERICA

Artist: Gyorgy Kepes

Windex picks PERVENAC* HEAT SEAL LABEL PAPER for added SPARKLE

In addition to sparkling labels on a bright clean bottle Drackett Company, makers of Windex, wanted accurate spot labeling with a see-thru feature. Pervenac gave them:

1. No adhesive smears.
2. Fewer Rejects — Less Relabeling.
3. Less downtime — no preparation or clean-up.
4. More bottles packed per hour.
5. Two-side printing for see-thru labels with directions for use printed on the adhesive side.

More and more users are finding that Pervenac pays off in the extra sales *it can make* and the production time *it can save.* For wet, dry, flat or curved glass-metal, paperboard or film. Write Nashua or have your printer contact his Nashua distributor.

*Registered Trade Mark
Manufactured under Patent 2,462,029

NASHUA
MAKES PAPER MAKE MONEY FOR YOU

NASHUA GUMMED AND COATED PAPER COMPANY
NASHUA, NEW HAMPSHIRE

NASHUA HEAT SEAL PAPER DISTRIBUTORS

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AUGUSTA, ME.
Carter, Rice & Company
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Carter, Rice & Company
John Carter & Company, Inc.
BUFFALO, N. Y.
The Alling & Cory Company
CLEVELAND, OHIO
The Alling & Cory Company
CHICAGO, ILL.
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Dwight Brothers Paper Company
CHARLOTTE, N. C.
Charlotte Paper Company
CONCORD, N. H.
John Carter & Company, Inc.
FARGO, N. D.
The John Leslie Paper Company
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Carpenter Paper Company
GREAT FALLS, MONT.
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HARTFORD, CONN.
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Indiana Paper Company
JACKSONVILLE, FLA.
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The Rowland Paper Company
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Tayloe Paper Company
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Everglade Paper Company
MILWAUKEE, WISC.
Bradner Smith & Company
Dwight Brothers Paper Company
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The Atlantic Paper Company
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American Paper Exports, Inc.
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VOLUME 25
NUMBER 6
FEBRUARY 1952

Modern packaging

PHOTO COURTESY B. F. GOODRICH CO.

A LOOK AT THE VINYLS

NEW PROPERTIES AND NEW METHODS OF PRODUCTION AT LOWER COST JUSTIFY CONSIDERATION OF THESE ABUNDANT PLASTIC MATERIALS

Packaging applications of straight vinyl plastics today are coming to attention more and more frequently, after years in which this family of materials—one of the largest volume-wise in the whole field of plastic resins—was scarcely heard of in packaging except as a coating or laminating material.

Does the new packaging interest in vinyl film and sheet reflect merely an effort to substitute an available plastic for others that are presently shorter in supply—or have the vinyls taken on new qualities which make them of greater value to packaging? Probably the present flurry of activity reflects something of both factors—but certainly much is being done to improve this tough, low-cost plastic from a strictly packaging standpoint.

Taste, odor and a question of toxicity—due to the types of plasticizers used—formerly were thought to bar vinyl films from foods and other sensitive products. In 1946 the use of nitrile rubber as a plasticizer, resulting in a film so free of these defects that it could be used as the famous squeeze-color bag for oleomargarine[1], demonstrated one solution—albeit a rather expensive one. Now the chemical industry has developed low-cost chemical plasticizers which have been accepted as non-toxic by the very strict Bureau of Animal Industry. Such developments may open up wide use of vinyl film for foods.

So recent that it has still to be reckoned with is the development of

[1] See "Margarine Squeeze," MODERN PACKAGING, April, 1948, p. 120.

For toiletries and cosmetics
PERMANENT cases of vinyl have hundreds of applications for cosmetics. La-Cross case is textured to look like plaid fabric and is resistent to handling, scuffing and cracking. Peggy Sage travel case is translucent vinyl film printed in pink.

an extrusion method for production of clear vinyl film as thin as ½ mil, reportedly at a cost considerably less than that of other plastic films with similar strength and pliability. This process is said to be close to commercial actuality.

To be balanced against the positive developments, to be sure, are some negative factors; notably, the fact that vinyls are characteristically poor barriers against water vapor. Unsupported films and sheet now being offered for packaging must be considered only where water-vapor resistance is not important—but of course there is increasing recognition that there are some products for which "breathing" permeability is desirable.

The favorable developments do at least warrant at this time a searching look at the vinyls—where they are going now, what they can do and where they are likely to go in the future in packaging.

Because the field of vinyls is a bewilderingly complex one, covering literally thousands of formulations and finished forms, this discussion will be limited to the two types which appear to be of immediate practical interest to packaging: the common vinyl chlorides and the special vinyl-nitrile combinations, in the forms which are relatively new to this field—the unsupported films (under 5 mils) and sheet materials (over 5 mils).

Our discussion will not cover the more familiar packaging uses of vinyls in laminations and coatings, important as they are; and it will exclude polyvinylidene chloride (saran), the excellent properties of which are well known in this field.[2]

HARDWARE ITEMS may be merchandised in sets in handy, inexpensive vinyl cases. This one has metal eyelets for hanging it over work bench.

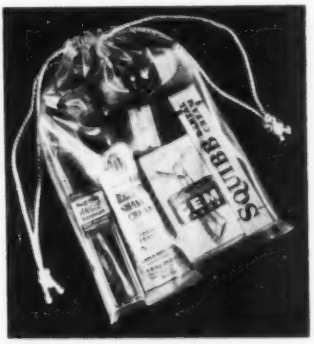
Basic considerations

Vinyl packaging materials can be produced as hard, brilliant films which approach cellulose acetate in appearance. They can be made soft and flexible, similar to the texture of polyethylene. They can be made completely transparent; in varying degrees of translucency, or completely opaque, and in a wide variety of colors. They can be produced in heavy-gauge sheeting for kits and cases that feel and look like leather—already an important packaging use. Rigid types of sheet can be formed like acetate into rigid containers. Vinyls are inherently heat sealable and may be printed, embossed or given an infinite variety of decorative treatments.

To understand current developments, it may be well to describe first the three principle methods of manufacture of vinyl films and sheet. One process is that of casting a film from solvent solutions or fluid dispersions

[2] See "Saran Film," MODERN PACKAGING, Dec., 1943, p. 95; "Saran Film 517—Physical Properties" MODERN PACKAGING, July, 1947, p. 149.

SWIM-TRUNK case introduced by B.V.D. Co. not only makes the product attractive to shopper, but provides a container to carry wet suit home.



COOPERATIVE PROMOTIONS as well as special deals can be effectively presented in vinyl film bags. The American Safety Razor Co. and E. R. Squibb & Sons sponsor the one shown.

of the resin, followed by removal of the solvent and fusion. The second method consists of making a film by heating the resin until it becomes plastic and calendering it between hot rolls. The third and newest method, extrusion, consists of forcing the resin in a plastic state through a flat or circular orifice under pressure.

Until very recently the solvent casting technique has had the advantage of producing thinner and clearer films than has been possible by the other two methods. Casting can also produce films from a wider range of base resins and resin formulations, since the technique is not dependent upon the heat stability or flow characteristics of the material.

But the extrusion process can produce thinner and therefore less-costly films, suitable for a number of packaging applications, providing the right physical and chemical characteristics are achieved.

Willard deCamp Crater, Jr., of the Naugatuck Chemical Division of United States Rubber Co. recently told The Society of the Plastic Industry: "There is a definite need for thin-gauge vinyl film, from one to three mils in thickness, for packaging applications. . . . Processing techniques and formulations have now been developed to a point which clearly indicates that satisfactory film for packaging, plasticized with monomeric, polymeric and Buna N (nitrile) types of plasticizers, alone or in combination with each other, is possible."

Mr. Crater also indicated another possible solution to the plasticizer problem when he reported that *un*-plasticized polyvinyl chloride has been produced by the Germans on calenders in very thin gauges. Such film, unilaterally stretched, has been reported to withstand minus 80 deg. C. in quick-freeze packaging of foods and in three-year tests it was found that the film had better resistance than tin to acid fruits, milk and pickles. Additional developments are expected to provide a thin-gauge rigid vinyl material in the not-too-distant future.

As to extruded vinyl film, Mr. Crater said that it "is now on the verge of real commercial exploitation. Because of its strength, clarity and feel, it should play a major role in the markets for thin-gauge film."

One firm expects to have on the market in quantities sufficient for commercial purposes early this spring a film less than 1 mil in thickness which it reports shows very good possibilities for bags to contain fresh produce and for meat packaging.

Several other firms are producing extruded films of the vinyl-nitrile type in gauges thinner than have been used for the self-coloring margarine packages. This film has already been tested by several of the large meat packers as a possibility for sausage-meat casings and hams, and one packer has been using it commercially on a trial basis. It is reported that one large packer gave each of its plants a choice of this new film and four other unspecified types of wrapping materials in recent tests, with a free choice as to which it would use. At last reports, the vinyl-nitrile film appeared to be gaining considerable favor. One cheese processor is also reported to have been using vinyl-nitrile film on a commercial-test basis for packaging sliced cheese.

A West Coast converter reports that vinyl-nitrile rubber film in slightly heavier gauges is being used in limited quantities for the packaging of pickles in brine and as a liner for liquid corrosives in cans. Another customer is trying it in a consumer package to hold a quantity of single-cup coffee bags.

Another film maker reports that he has introduced a vinyl-nitrile film, approved by the Bureau of Animal Industry for use with meat and meat products. It is already being used commercially, he says, to package lard in 50-, 100- and 250-lb. units, using a corrugated box for the outer cantainer. The same film is also said to have been tested and approved for liners in drums to carry essential oils such as are used in soft-drink syrup concentrates.

A film of non-toxic vinyl composition is reported also to be used for packaging the following:

Condensed milk (40% solid)—a product used in cheese making. The package consists of a film liner for a fibre drum with gross weight of 250 lbs.

Sweetened skimmed condensed milk (50% solid)—used in ice-cream making. A vinyl liner is held in a fibre drum having a filled gross weight of 400 lbs.

An animal food—vitamin-enriched whey—of varying solid content in 50- and 100-lb. sizes put up in a vinyl bag within a corrugated carton.

Penicillin in liquid-holding liners placed inside 55-gal. steel drums.

One converter reports that he is

OPTICAL INDUSTRY is making wide use of vinyl cases for sunglasses. These cases look like patent leather with alligator-grained vinyl snap tab.

EMERGENCY PACK of one pair of Holeproof hosiery is effectively packaged in self-sealing transparent vinyl envelope—a unit to carry in the purse.

NOVELTY APPEAL and functional aspects are combined in vinyl travel kit for four compressed washcloths, with pocket for storing of used ones.

VINYL LINERS of the type reported in use for drums containing condensed milk products used in cheese and ice-cream making; also in 55-gal. steel drums for penicillin. Square carton liner is being used in a corrugated carton for the shipment of animal foods.

manufacturing drum and carton liners from non-toxic vinyl film that are being used by the California Sales Co. for packaging, storing and shipping cherries in brine; by the Pacific Olive Co. for shipping green olives in brine and by Max Factor for exporting face powder in film-lined drums.

Advantages and disadvantages

Vinyl-type films and sheeting have many outstanding virtues. The material is tough and strong; may be heat sealed by a number of methods, including high-frequency electronic sealing; can be made with excellent clarity and has good resistance to greases.

On the other hand, vinyl has disadvantages for certain protective functions. A low degree of water-vapor resistance, previously mentioned, is a serious drawback for a great many protective packaging purposes. For many uses, also, extreme care must still be taken to select the proper plasticizer-resin combination to meet toxicity, odor and taste requirements, or to prevent migration of plasticizer if the film is in contact with other resins, adhesives or finished surfaces.

Other obstacles must be overcome in handling the material, either manually or mechanically. Many vinyl films are limp and "floppy," thus difficult to manage in machine production without special equipment. There are, however, recently developed bag-making and wrapping machines that can handle vinyl films as well as other soft plastic films. Polyethylene has much the same characteristic of limp handling. There are improved methods under way for better printing on vinyl films and sheeting.

A big deterrent to packaging use of vinyl films has been high cost. Due to the high specific gravity of vinyl, the yield in square inches per pound is less for comparable gauges than for that of other packaging films with lower specific gravities. If new half-mil films have the strength of other plastic films two or three times as thick, they may wipe out the price differential.

Re-use vinyl packages

The field in which vinyl already has made a permanent place for itself is in its application for re-use packages —the kit or case for tools, cosmetics, textiles, fishing gear, sunglasses, beachwear and hundreds of other items.

The tough, pliable, water-resistant material, made up into any number of decorative effects and stitched or electronically heat sealed, is ideal for such purposes.

A peculiar property of certain vinyls that recommends it for many of these kit applications is that of self-sealing. Two surfaces of such vinyls brought together and pressed lightly, as in a full-length flap over an envelope, will tend to cling by molecular attraction, often making a snap or other fastener unnecessary. This property, and the soft feel of the material itself, has a novel, psychological attraction for the user.

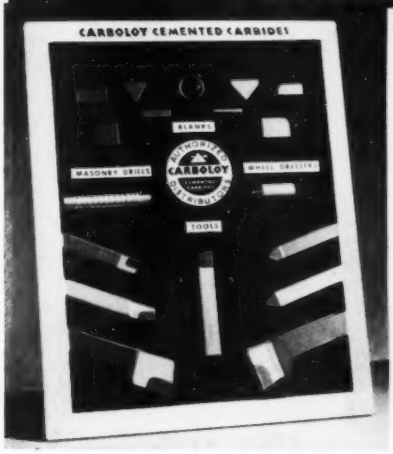
During the last few years there have come to the fore two new groups of suppliers in this field: those which produce a wide variety of decorative films and sheet and those with the high-frequency sealing and fabricating equipment to make them into many types of containers with strong merchandising appeal.

The vinyl kit not only provides an excellent container in which to merchandise a group of items as a set or deal, but is particularly attractive to the consumer as a case in which to keep the items or to re-use for other purposes.

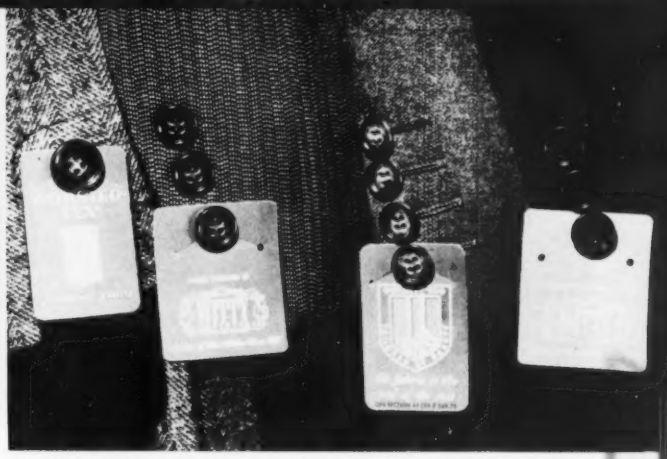
Many of these cases of opaque vinyl have the look and feel of leather, and are sturdy and long lasting at a cost considerably less than that of leather. These characteristics are particularly effective for the packaging of hardware and tools. One firm which sells precision calipers recently switched from a leather kit to one of vinyl plastic at a saving of more than 300%. The case is of simple pocketed construction that rolls up and ties with a tape, but has convenient grommets at the top corners to hang up over the work bench. Cases of other constructions are being used for pocket knives, plumbs, flexible measuring tapes, scissors and sheers, surgical instruments, fishing equipment and many other items that are handier in a permanent case.

Some of the largest new users of vinyl cases are the manufacturers of manicure preparations and manicure cutlery. One leading firm had 20 such cases on the market for its 1951 holiday line and expects to use more next year. Another leader in this field used vinyl cases for practically 90% of its manicure sets. The materials used for these containers have been designed in all types of leather grains, printed and embossed in fabric de-

Effective uses of rigid vinyl



SINGLE SHEET of rigid vinyl has been formed and colored to simulate exact shapes of Carboloy tools for point-of-sale display.



VINYL TAGS of rigid sheet are being used for brand identification in garment merchandising. They are said to outlast the ordinary type of tags because of their strong resistance to tearing and smudging.

signs, as well as with highly calendered surfaces that look like patent leather in brilliant colors.

The demand in the toiletries field for travel kits and cases of various kinds—compact units to carry safely a number of items—has opened up many new applications for the vinyl kit of opaque, translucent or transparent sheet. Many of these, equipped with products in light-weight polyethylene bottles, have been developed for both men's and women's toiletries and cosmetics. Popular purse kits for lipsticks and perfume vials are also being made of vinyl. Also useful in the cosmetics field are the tiny vinyl film pouches that can be made electronically in a single strip and torn off separately for packaging tiny eye-shadow refills.

A particularly interesting example in the field of toiletry novelties is a translucent, electronically sealed case, specially compartmented to hold four compressed, scented, wash cloths called Quettes, put out by Q-W Laboratories, Plainfield, N.J. Ideal for traveling, the Quettes look like large tablets, but when put in water open up into full-sized wash cloths. Two small compartments hold the unused wash cloths and a third one covered by a loose flap is provided for folding away the used wash cloths.

The optical industry has been quick to see the advantages of vinyl sheeting for cases in which to merchandise sunglasses. The material makes a good sturdy case and, for this purpose, has been designed in a number of interesting color combinations and constructions. Some particularly attractive cases are the side-opening, snap-fastening type which have been designed for certain lines put out by the American Optical Co. Other cases are made of rigid transparent sheet on one side and colored flexible film on the other. The properties of the two materials in this instance are such that the glasses stay securely in place in the cases without slipping. One firm is even using cases with special feminine appeal made of a vinyl which has been creped and printed with dainty floral patterns.

Next summer shoppers will welcome swim suits and trunks packaged in envelope-type, snap-fastened vinyl cases of either transparent or translucent film. Vinyl film or sheet is a natural for this packaging purpose because of its waterproofness (not to be confused with water-vaporproofness). The swim suits are not only protected from handling and shop wear in their plastic cases, but the cases make ideal containers in which to carry wet suits home from the beach. The B.V.D. Co. introduced its men's nylon swim trunks in such a case last season and it is reported that other manufacturers of bathing suits, both men's and women's, will be on the market with re-use vinyl packages next summer.

The Holeproof Hosiery Co., Milwaukee, Wis., is making good use of

CORD RING to secure electric razor cord in Shick package is an electronically sealed length of extruded vinyl belting. Housewives would welcome similar bands to keep their electrical appliance cords from tangling up when they are not in use.

VINYL SHROUDS made of sheeting to withstand 50 deg. below zero, now being used widely for defense shipments, may have important civilian uses in protecting machinery and other metal equipment during shipment.

vinyl film for its recently introduced Spare-Pak of one pair of stockings. The merchandising idea is to stimulate the purchase of two or three pairs of stockings. With the second or third pair purchased, the shopper gets one pair packaged in a re-usable, transparent vinyl envelope suitable for carrying in the purse. The sturdy vinyl material is excellent for this purpose because it will not crack or break and has the added advantage of self-sealing.

Vinyl envelopes, because they do not dry out and crack, should also find wider use as merchandise packages for such items as sweaters, lingerie and other textiles that need long-lived coverings to protect them from shop wear.

Manufacturers in a number of fields have recently discovered the advantages of vinyl film bags for merchandising a deal. Many of the soap companies have put up certain quantities of soap cakes in translucent vinyl bags offered for a limited period at an advantageous price. The purchaser not only gets a bargain in soap, but a handy bag with many re-use purposes.

Several firms have also used vinyl packaging for cooperative selling. The American Safety Razor Co. recently cooperated with E. R. Squibb & Sons, offering a Feathrelite Gem Razor and shaving brush with Squibb shave cream, tooth brush, dental cream, etc. The bag, equipped with a drawstring tie, provides the purchaser with a handy travel carrying case for the toiletries.

The tobacco industry has used vinyl packages for smoking tobacco in the form of re-usable pouches offered as a premium specialty.

There are many places for vinyl cases in the notions field, one firm using a decorative permanent case to merchandise sets of knitting needles in various sizes.

Flexible containers made of vinyl sheet and film also have many possibilities for packaging toys. They can be made into attractive, useful cases for small games, pencil and colored crayon sets, or holsters for toy guns and pistols when fabricated in proper shapes. The inexpensive re-usable case is actually taking the place of the card for merchandise in some instances—providing not only a sturdy package, but an item the child can use as a toy purse or school bag.

There may be an idea for the electrical appliance industry in a vinyl packaging item adopted recently for the Schick electric razor. This company required a neat-looking, permanent band to hold the wound-up cord in its compact case. Recently it solved the problem with an electronically sealed band of extruded transparent vinyl belting. The same idea might be adopted by makers of electrical appliances, not only for managing the cords for the original packing, but for the housewife to reuse in keeping her flat iron, toaster or kitchen-mixer cords from tangling up when not in use.

SINGLE SERVICE containers like the one illustrated below are being drawn from rigid vinyl sheet, filled with jams, jellies, etc., and supplied in large numbers to restaurants and dining services. This package is considered to have great potentialities in the food industry.

PHOTO COURTESY PENNSYLVANIA RAILROAD

Rigid vinyl sheet

Rigid vinyl sheet may be drawn and formed very much like acetate plastics and is occasionally used for similar purposes, although its cost to date has restricted its application. However, there are occasional interesting uses reported. One recent application is in the field of display. A mock set of Carboloy tools has been formed of rigid vinyl sheet instead of using the actual metal tools affixed to a point-of-sale unit. The vinyl was formed with ease to the complicated three-dimensional shapes of the tools, complete with background, display objects, raised labels and signature

all molded in one piece of rigid vinyl sheet. The display is light weight, thus easy to ship, is relatively inexpensive and simple to install.

This ease of drawing and molding to complicated shapes is one of the big advantages of vinyl sheet.

Rigid vinyl sheet printed by a new process is also finding new application as a material for brand tags in the garment trade. The durable material resists soiling and fraying and is said to outlast other types of labels, particularly for clothing which hangs on racks where it is continually fingered by shoppers. The vinyl tag does not crease, crack or tear and can be die cut and slotted to fit over buttons without tying.

The larger and more conventional uses of vinyl film and sheet in packaging are still to come, depending upon the current cost-cutting developments mentioned above. But current large use of vinyl sheet for strictly functional purposes by the Armed Forces and others in shipping and storage packs will serve to demonstrate properties of the material.

Army ordnance

The Army Ordnance Corps is using large quantities of envelope-type shrouds of vinyl sheeting to protect heavy shipments of equipment and machinery in place of heavy canvas tarpaulins, wooden boxes and crates which are several times more expensive.

The sheeting used for this purpose is an outgrowth of the type commonly used in commercial products such as raincoats and shower curtains. It was essential, however, to stabilize this material so that it would retain its original properties under outdoor exposure and service conditions and not become brittle and crack or shatter even in sub-zero temperatures. It was also necessary to provide a material that would withstand constant wind-whipping on open flat cars and out-of-door storage. This was accomplished by the development of an 8-mil sheet of vinyl chloride with special plasticizer which is reported to withstand temperatures down to minus 50 deg. F.

This sheeting is being used widely in defense shipments in combination with the now well-known vapor-phase-inhibitor method of packing. The inhibitor material is applied to heavy kraft paper used both in sheet form or shredded and packed into cheese-cloth bags and tucked in gear boxes or laid along machine ways. The inhibitor paper builds up a free and continuously recurring atmosphere under a shroud that prevents rusting of precision surfaces even though moisture settles under the shroud. The success of the special vinyl film as an inexpensive outer shroud for this purpose has been such that the makers feel it has many possibilities for civilian applications as a covering for all kinds of machinery that requires protection in shipment, as well as for packages of small items such as motors, sewing machines, typewriters, electrical appliances, etc.

An odd use for vinyl film that has just come to light[3] is as an outer wrap over shipping containers, with rodent-repellent chemicals incorporated in the vinyl. Studies indicate that this is one of the most effective ways of keeping rats and mice away from packaged foods.

In their applications to packaging, vinyl films and sheet are in that interesting stage of development which challenges the imaginations of suppliers and package users. Because of the ready availability of the basic resin at relatively low cost and its compatibility with other resins and modifiers to produce materials with tailor-made properties, the field of vinyls may provide answers to many packaging problems as yet unsolved.

[3] See "Rodent-Resistant Vinyl Films," MODERN PACKAGING, this issue, p. 130.

CREDITS (for packages illustrated): ***La Cross*** *case manufactured by Electrical Industries, Inc., Newark, N. J., of vinyl fabricated by Cohn-Hall Marx Co., New York.* ***Peggy Sage*** *case, silk screened and fabricated by Fiss Bros., Inc., New York, using Bakelite Vinylite, electronically heat sealed on equipment supplied by Kabar Mfg. Co., Bronx, N. Y.* ***B. V. D.*** *package (B. F. Goodrich vinyl),* ***C. M.*** *tool kit (vinyl, O'Sullivan Rubber Co., Winchester, Va.),* ***American Safety Razor-Squibb*** *bag (B. F. Goodrich vinyl),* ***Calobar*** *sunglass case (vinyl, Plymouth Rubber Co., Canton, Mass.),* ***Schick*** *cord ring (Bakelite and Goodrich vinyl) —all made by Myron Mfg. Co., Inc., New York.* ***Quettes*** *case fabricated by Transeal, Ltd., Plainfield, N. J., using Bakelite Vinylite.* ***Holeproof Spare-Pak*** *fabricated by Vin-Tex Sealers, Inc., Chicago, using Bakelite Vinylite. Vinyl drum and carton liners (K-Flex) made by R. L. Kuss & Co., Inc., Findley, Ohio.* ***Carboloy*** *display produced by Acme Laminating & Plastic Co., Hazel Park, Mich., using Bakelite Vinylite. Garment tags manufactured by Hopp Plastics Div., Hopp Press, Inc., New York, using Bakelite Vinylite. Shrouds for defense shipments fabricated by National Transparent Plastics Co., Springfield, Mass., of specially developed vinyl produced by Monsanto Chemical Co., Plastics Div., Springfield, Mass. Toy packages (school bag, crayon book, paints, game) fabricated by Welded Plastics Corp., New York, using Bakelite Vinylite.*

TOY NOVELTIES have new appeal when placed in inexpensive re-use vinyl cases. School bag contains slate, crayons, coloring book; holster attached to coloring book contains water colors; crayon case can be re-used as a purse. Vinyl case merchandises three kinds of Plastrix games.

DRY POWDER seasoning for spinach, "Tok," is a monosodium glutamate plus other seasonings. It is sealed in a polyethylene-coated paper envelope and positioned inside the cellophane spinach bag for prominent visibility.

LIQUID DRESSING for salad mix is handled on same machine in pre-packager's plant. However, it uses a liquid-tight Pliofilm-cellophane lamination. The liquid pouch is designed to be opened by cutting across an upper corner.

A touch of seasoning

A SINGLE VERSATILE MACHINE PERMITS PRE-PACKAGER TO ADD PACKETS OF FLAVORING TO SPINACH, FRENCH DRESSING TO SALAD MIX

Pre-packaging has brought produce merchandising a long way forward from the days of messy bulk display. The discriminating housewife has come to expect that her fresh vegetables will be served up to her trimmed, washed and protected in a transparent package. So highly developed has this practice become that it is hard to believe that anything more could be done in the way of packaging to boost sales appeal any higher. Yet that is exactly what has been accomplished by Suffolk Farms, Revere, Mass.–one of the real pioneers of branded, pre-packaged produce–with its idea of including with certain items, as an extra touch, a packet of appropriate seasoning to insure a gourmet's delight from the finished dish.

With the use of specially developed pouch packages and special machinery, Suffolk Farms is now marketing bags of spinach with a packet of its "Tok" trademarked seasoning enclosed and its Salad Bowl mix of green vegetables with a pouch of French dressing–ready to toss and serve.

Tok seasoning contains monosodium glutamate and helps banish the puckerish taste often found in spinach and gives it a real taste thrill–something Popeye the sailor could never do, though he did about everything else for the vegetable.

Suffolk Farms spinach is prewashed and sorted to remove grit and inferior leaves so that the housewife is spared this time-consuming chore. She empties the spinach from its cellophane bag into the pot, tears open the separate pouch of Tok seasoning–and the rest is in the eating. A series of recipes is carried on the backs of the printed bags to help the housewife achieve menu variety.

By no means least among the benefits to the housewife is prominent brand identification which, backed

up by Suffolk's 15 years of pioneering high standards in pre-packaging, enables her to look for and rely on the quality of packaged merchandise bearing the Suffolk Farms name.

The particular forte of pre-packaging, of course, is labor saving, convenience and brand-backed quality. Suffolk Farms fresh-pack salad mix and spinach, however, go a step or two beyond any previous attempts to make the housewife's work easier and the secret lies in the ingenious new packages.

The heat-sealed pouch containing French dressing is made of Pliofilm laminated to cellophane. The Tok pouch is made of polyethylene-coated paper, with the film coating on the reverse side of the paper to form an inner lining. Both packets are formed and filled on one machine that feeds either type of pouch material from a roll to automatic register, forming, filling and final heat sealing. Both types of pouch are handled at a speed of about 60 packages a minute and the operation is completely automatic.

The protective requirements for the French-dressing pouch are a strong liquid-tight material and excellent sealing properties. The pouch is transparent and displays the rich red dressing to advantage, but also has panels and copy printed in red, white and blue. The spinach seasoning, which is a dry powder, calls for a high degree of moisture protection. Both packets are attractively printed, for when placed in the cellophane bag holding salad mix or spinach, they must help catch the shopper's eye and tell her the salad is *complete* with dressing, or that the spinach bag includes Tok, which will make spinach taste better.

Suffolk Farms' packaging innovations have resulted in steadily mounting sales of pre-packaged spinach and salad mix, with some stores reporting that sales have been doubled; but even more significant, perhaps, is the thinking behind the new packages, for it reveals a high degree of maturity in developing a growing market in the pre-packaging field.

Suffolk's predetermined objectives were:

1. Make spinach more palatable for more people so it will be served oftener and therefore be a more profitable item for dealers to handle.

2. Stabilize retail merchandising practices and prices by making spinach and salad mix an all-week item, instead of a week-end "football" to be kicked around on the price field of bargain come-ons.

3. Make pre-packaged quality produce an all-season item for the packer.

4. Add new products to the line. Although the French dressing and Tok are not sold separately from produce, their sale as part of the combined package holds considerable potential for increased dollar volume.

5. Step out in front of competition and gain new recognition for the Suffolk Farms brand name.

A sixth objective, not originally contemplated, is selling insert packages of Tok and French dressing to local and out-of-state pre-packagers.

Birth of an idea

Last spring, prior to the introduction of the new packages, Suffolk Farms, with distribution mainly in the New England states, was searching for a means of increasing consumer acceptance of spinach. The company took its problem to the consumer by way of a house-to-house survey. A revealing—but scarcely surprising—fact was uncovered. Although more than 90% of the survey families purchased spinach, only a few people said they were really fond of the vegetable. Some said they hated the stuff, but ate it because of its health value.

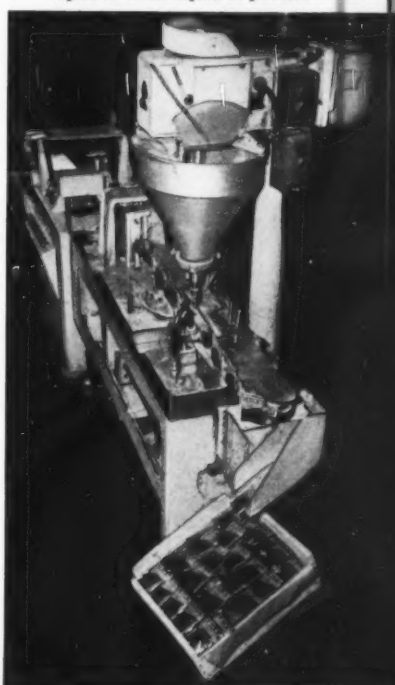
Suffolk then checked into the methods of preparing spinach, only to learn that most New England housewives simply use butter and salt to flavor the vegetable, although some add vinegar, garlic, olive oil or lemon juice. Even more important—and this is a major problem in the entire field of pre-packaging and one not easily solved—the housewife had little awareness of brand names in fresh-pack produce and attached even less thought to the importance of remembering which brand names meant consistent quality. Moreover, pre-packaged produce usually meant premium price and if the shopper got stung with spoiled or inferior merchandise that far outweighed any of the conveniences offered and discouraged further purchases regardless of brand.

The problem of consistent quality is not easy even for the experienced, conscientious packager. First, crops vary with the weather and not all are suitable for pre-packaging. In regard to spinach, for example, very warm weather is undesirable, because spinach then grows too fast, resulting in a product that has no substance or body. Therefore, it will not stand up for a normal shelf life in the grocery store. Heavy rains, hail, wind and sand storms are also special enemies of the premium-grade spinach required for pre-packaging.

The bulk of Suffolk Farms winter-season spinach comes from Texas, where the company has its own man at the source of supply to make sure the best quality spinach available is procured and that it is harvested and graded according to the company's own high standards. Precooling, special handling and fast shipment help assure delivery of prime-quality produce to the Northern market.

Special handling and processes are required in the pre-packaging plant and, finally, much depends on the

MACHINE takes preprinted material for either pouch from a roll, forms it, fills it with measured quantity, seals it and discharges finished packet automatically. The unit can be quickly changed over from powder to liquid or from liquid to powder.



way the dealer handles the produce. The shelf life of pre-packaged spinach, with proper refrigeration, is approximately three days; if not moved in that period it must be withdrawn by the wise retailer who wants pre-packaging to succeed in his store.

Spinach lacks sufficient body to stand up in warm stores and hasn't been packed by any pre-packager in summer. Suffolk overcame the obstacle by developing its own seed strain, which is grown in north Holland and permits spinach growing at mountain altitudes. Cool-weather growing results and produces a sturdy leaf for summer pre-packaging. Suffolk now supplies seed to Texas growers and will expand its own Northern acreage for its summer supply and that of other New England pre-packagers.

However, even when the crop and handling are all that they should be, the problem of taste appeal remains. Suffolk Farms people, in talking with home economists and famous chefs, noted how conscious the experts are of properly seasoning not only spinach, but all foods.

After considering these facts, it was decided that a seasoning expertly blended for spinach should be provided. Test after test was made combining well-known seasonings with the new "third shaker" seasoning, monosodium glutamate. Finally, a combination was found and consumer tests showed 85 to 90% of the testers thought the spinach so seasoned was exceedingly palatable. One enthusiastic tester provided the Tok name by remarking, in his New England accent, "Your seasoning sure made the flavor talk."

The Salad Bowl mix did not involve quite the same problem in regard to taste appeal. Most consumers can make a tempting mixed salad by garnishing it with a proper dressing. Suffolk discovered, however, that French dressing was a slow mover in New England stores, comparatively unknown. Apparently shoppers did not dislike the product; they just were not aware of it. Suffolk reasoned that often the housewife would not have prepared dressing on hand. How much more convenient, therefore, to offer the shopper a package of salad that would include its own economical, measured quantity of French dressing.

The firm decided it would offer such a package and in doing so would have a special premium grade of dressing prepared to make sure there would be repeat orders for the Salad Bowl mix. Arrangements, accordingly, were made with the manufacturer of Cain's French Dressing to produce a blend formulated specifically for the salad mix.

PACKAGING LINE in the Suffolk Farms plant. One operator holds the bag on a funnel filler and drops the seasoning packet into place as another fills it with a premeasured quantity of washed spinach. The filled bags then pass through the heat sealer shown in left foreground.

The search for suitable insert packages led to discussions with suppliers of packaging materials. The discovery that Pliofilm laminated to cellophane (both special grades of film) would serve as a container material for liquid French dressing was especially fortunate in that it permitted a flexible pack for a liquid put-up—one that was practical for packing in the cellophane bag of mixed salad. The final jig-saw piece fell into place when it was discovered that a standard machine relatively new on the packaging scene would form and fill *both* the preprinted French-dressing package and also the preprinted polyethylene-lined 40-lb. bleached white sulphite paper pouch that had been selected for Tok spinach seasoning.

Machine operation

Two features in particular recommended the type of machine chosen by Suffolk for its pouch-forming and filling operation. The first is the flexibility of the machine, which permits one piece of equipment to fill either a powder or a liquid and makes change-over from one type of product to another a relatively simple matter, handled in 3 to 4 hrs.

The second feature meeting Suffolk's needs is precision filling, which allows for close tolerance in filling both types of products. The filling tolerance for Tok is plus or minus 1½% and for French dressing it is 1%.

An auger feeder is used for Tok and a volume feed for French dressing. Other types of feeders to handle solids or mixed parts can be used with this versatile packaging machine where desired. Controls permit adjustment of heating-bar temperatures to seal different types of films or foils. Suffolk uses similar-sized pouches for Tok and French dressing, but various sizes of pouches can be handled by changing over the grippers that hold the pouches in position for filling and by adjusting the pouch-forming mechanisms.

At Suffolk Farms, the package material—either polyethylene-coated paper or laminated cellophane-Pliofilm—is web fed into the packaging machine from a roll. Positioning of the material is controlled by electric eye to assure cut-off of the proper amount of material and exact registry of the preprinted front and back panels. A fold is made to form the bottom of the pouch and the side edges are heat sealed.

The pouches are then carried single file in an upright position under a single-spout filling station by metal grippers that clasp the right-hand (leading) edge of the pouch. The grippers are attached to a traveling link belt. When a pouch comes to the filling spout, the front and back sides of the pouch are engaged by suction cups so that the pouch is opened to receive its measured quantity either of powder or liquid. The top of the pouch, immediately after filling, is sealed by the jaws of a heat sealer and the pouch is discharged from the machine into a tote box.

The entire sequence of pouch forming, filling and sealing is automatic.

The practice at Suffolk Farms is to run off alternate supplies of Tok and French dressing to meet scheduled demands. When pouches of Tok are called for, the powdered seasoning is placed loose in the hopper directly above the spout of the electronically controlled, electrically driven auger feed. When a sufficient quantity of Tok pouches has been filled, the hopper is removed for cleaning and the plunger is adjusted for volume filling of liquid French dressing. The dressing is fed into the filling hopper from a barrel mounted at a height sufficiently above machine level to permit gravity flow.

Filled pouches of either product are turned out at a speed of about 60 a minute.

The problems of produce prepackagers have been manyfold and have been subject to considerable searching in order to determine the best packaging materials, equipment and methods.

Suffolk Farms was first to take advantage of the continuous Government inspection service, which enabled the company to identify its fresh-pack products: "U. S. Grade A." Suffolk requested that the Government establish grade standards for pre-packaged products. Two years ago, the firm was unsuccessful in its endeavor to have a state law passed forcing all Massachusetts packers to be licensed by the Dept. of Agriculture and compelling identification of products by grade.

Suffolk packs at the wholesaler level, which has proved especially practical for spinach, salad, cole slaw, celery, various greens and tomatoes. The plant is conveyorized for a high degree of mechanized handling and

TYPICAL PACKAGES in the Suffolk Farms line. New England firm was one of the pioneers of branded, quality-graded pre-packaged produce.

the packaging is a speedy assembly-line operation with a daily output capacity of 36,000 packages of spinach alone. The entire in-plant process of washing, sorting and packaging spinach requires but 15 minutes from receipt of the vegetable until packages are ready for delivery.

After sorting, high-pressure washing, final inspection and drying, spinach is brought to the packaging line, where an operator measures a 10-oz. scoopful of spinach while another operator places a cellophane bag at the bottom of a funnel and drops in a pouch of Tok so that the insert pouch appears at the bottom front of the bag. The scoopful of spinach is fed through the funnel into the bag, which then moves by conveyor belt to an operator who places the bags in the traveling track of an automatic heat sealer. From 15 to 20 women are usually employed on the spinach packaging line. The bags are finally carried by endless belt to the shipping room and are packed eight to a shipping carton for distribution to chain market or jobber's warehouses. Then, overnight, the cases of spinach are delivered to stores throughout New England.

The packaging of Salad Bowl mix is similar to the spinach packaging, except that 12 units of salad mix are packed in the corrugated shipper. Spinach uses an LSAT cellophane bag because the green leaves must "breathe." MSAT cellophane is required for the salad mix to keep out air, which would cause the cabbage to turn black from oxidation and permit the other vegetables, such as carrots and celery, to lose their crispness.

Promotion

The Tok-spinach combination and the French dressing-salad mix were introduced in stores by actual demonstration and the serving of samples. Sales responded extremely well, the company reports. A minimum of advertising has been used to date, except for an excellent sound-color movie shown to group meetings at clubs, cooking schools, etc. The film shows

(*This article continued on page* 187)

EASY SET-UP is a built-in feature of this shipper, here shown in the flat. First step in assembly is to grasp the thick part of blank and square the container to its box shape.

ONE-PIECE APPLE PACKER, designed specially for manual set-up, requires no stapling or gluing. When the ends of the blank are brought together, die-cut strips snap into position to form carton ends.

Work-saving cartons

SOMETIMES CLEVER ENGINEERING CAN BUILD AUTOMATIC FEATURES INTO CONTAINERS THEMSELVES, TO OBVIATE SKILLED HELP OR MACHINERY

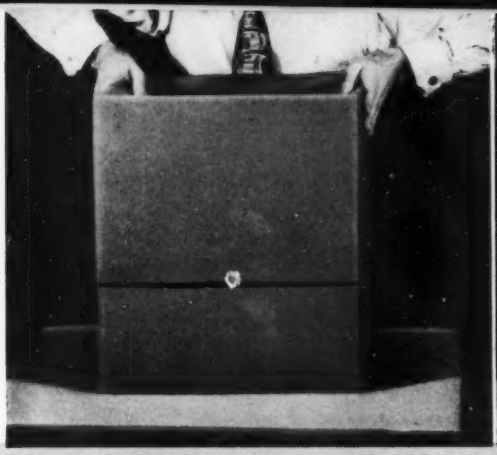
Although the trend in packaging is continually toward increased mechanization, some operations just do not lend themselves to this move. The versatility of container design, however, is such that even intermittent or low-volume schedules can sometimes be made more efficient by building automatic features into the container itself.

For example, the Jersey Fruit Co-op Assn., Riverton, N. J., is using a one-piece retail apple carton that can be set up and filled without stapling, gluing or use of special equipment. The die-cut, preprinted packer is supplied in the form of a flat blank of corrugated board. When the scored ends of the blank are bent toward each other, two die-cut strips of the carton are automatically squeezed out of the blank to form the sides of the packer. The apertures left by the pushed-out strips become windows displaying the fruit.

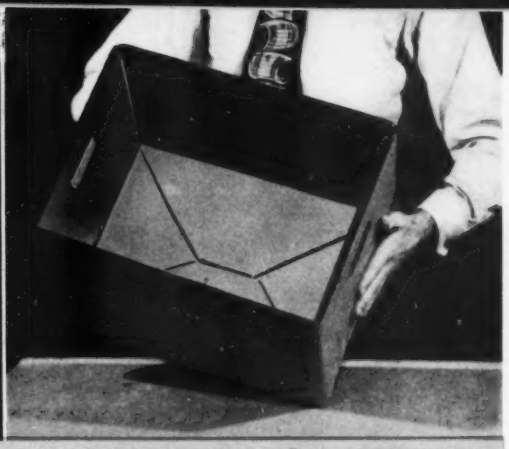
After selected apples are placed in the partially formed carton, the ends of the blank are brought together and the notched insert tabs on one end are locked into slits of the opposing end. Only two simple operations are required to form the packer and these can be done almost as fast as the hands can move.

In a similar example of packaging made easier by the package, Spinale Bros., a New York tomato packer, and numerous small apple growers are using a snap-open shipping container. This double-wall, double-floor box—like the apple packer described above—requires no skill to set up. The work has all been done by the box designer and the manufacturer.

The prescored, stapled-joint blank



OUTER SHELL TELESCOPES over inner walls when top section is pushed down. Because container set-up does not require machinery or special employee skills, box has been adopted by tomato and apple packers to assure efficient packing with minimum cost for training and equipment.



READY TO PACK, the box, which is set up with two easy motions, has double walls and double floor, making it suitable for a number of packaging operations where Freight Classification requirements call for added packing protection to assure safe shipment.

arrives at the packaging line in the flat. An easy tug at the sides of the blank opens it into a double-section box—shaped something on the order of a box kite. A simple push on the top section inserts it inside the bottom section, forming the double-wall container. At the same time, a double-floor bottom is formed, which locks the sides into position. Thus, with but two quick operations the container is set up and ready to pack. The lid of the container is a flat blank with scored flaps that insert along the sides of the container.

The functional advantages in the design of both the packer and the shipper should be readily apparent for those operations where skilled workers or machinery are not available. In numerous produce packing plants, for example, output is seasonal and often sporadic. Migratory workers are employed and it is costly to train them in special packaging, since they do not remain on the job very long. The automatic-type packers and cartons eliminate the need for training and, at the same time, assure speedy output. In many instances, the sturdiness of the cartons permits re-use for several shipments. The cartons are easily knocked down and can be returned to the shipper in the flat.

Construction features

Both the retail apple carton and the shipper are remarkable for the package engineering involved in their construction. The retail carton is formed from a solid blank and utilizes the entire blank so that there is no waste of board. Not only is it as economical in the use of material as a container of this type can be, but it is, also, compact and sturdy. It affords excellent protection for apples and, at the same time, provides visibility of contents.

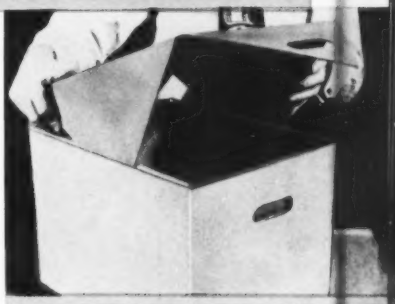
An additional feature of this container is the fact that the housewife can use the carton for storing apples in her refrigerator.

The shipping container is unique in that the score lines occur only at the four corners of the box (where the fold naturally takes place) and thus there is no loss in container strength in achieving the excellent mechanical features that assure easy set-up.

The box, reportedly, was custom designed for the use of apple growers, who require a double-wall, double-floor box to meet Freight Classification regulations for safe shipment and stacking.

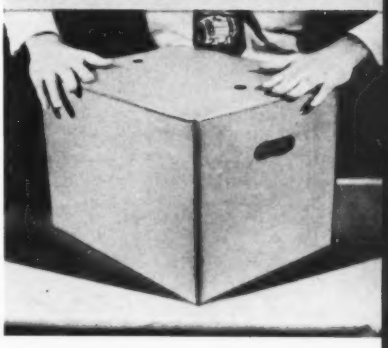
However, the use of this type of shipping container is not by any means restricted to produce. Its time and work-saving features indicate that it may eventually find acceptance in the shipping of quart or larger-sized glass jars and other unit containers where double-wall protection is desirable.

CREDIT: *Retail cartons and shipping containers illustrated designed by and sold through The Paige Co., New York.*



STURDY CONSTRUCTION of box is accounted for because score lines occur at natural folds. The box is easily knocked down for return in the flat to shipper.

CONTAINER TOP is a one-piece, prescored blank. Corners of blank are inserted between inner and outer walls of box and held in place by friction. Die-cut grips make for easy carrying.



Packaging's Hall of Fame®

THIRTY-EIGHTH OF A SERIES

Kellogg's CORN FLAKES

It is a reasonably safe bet that the signature of W. K. Kellogg, who pioneered the gigantic ready-prepared cereal field around 1900, is more familiar to most Americans than that of John Hancock, first signer of the Declaration of Independence. The Kellogg signature has appeared on literally billions of breakfast-food packages since Mr. Kellogg developed Corn Flakes and placed them on the commercial market around the turn of the century.

When Will Keith Kellogg discovered how to process and flake corn, wheat and other grains into tasty, nourishing food products, he laid the foundation for the Kellogg Co., which today remains the world's largest producer of ready-to-eat cereals, including not only Corn Flakes, but also an entire family of related products. In a broader sense Mr. Kellogg's contribution was even more significant. He played a leading role in the establishment of the entire U. S. dry-cereal industry, which virtually revolutionized the American breakfast and, largely through the medium of packaging, brought to millions of families attractive new grain products in economical, ready-prepared form. According to the Cereal Institute, Inc., more than 45 million cereal servings are now eaten daily by the American people, in addition to the increasing quantities consumed in other countries.

It is remarkable to note that in the hotly contested dry-cereal field, against dozens of well-heeled competitors, Kellogg's Corn Flakes has—according to all available surveys—been the No. 1 seller every year since it was first introduced commercially in 1906. It runs neck-and-neck with the leading brand in the cooked-cereal field.

The story of Kellogg's Corn Flakes is so fundamentally the story of ready-to-eat cereals in the U. S. that nomination of the Corn Flakes package to the *Hall of Fame* series became almost automatic.

From its earliest days, the Kellogg organization has devoted much attention to the entire question of packaging, to assure maximum product protection and freshness. In the pursuit of this program, the company has not only made important contributions to package structure, as exemplified by the heat-sealed inner waxed-paper bag which excludes air and moisture, but has also cooperated in the development of improved packaging machinery and has been a leader in adapting package design to changing conditions of merchandising.

Despite this constant process of adaptation, however, basic design elements of the main display panel of today's Corn Flakes carton are strikingly similar to those of the early Kellogg Corn Flakes packages; through nearly half a century of production and marketing, the essential appearance and identity of the package have been carefully preserved.

NONE GENUINE WITHOUT HIS SIGNATURE

W. K. Kellogg

The beginning

Without proper packaging to make mass production and sales possible at a modest retail price, Kellogg's Corn Flakes certainly would not have progressed beyond their original limited use—namely, that of a special food for patients at the Battle Creek (Mich.) Sanitarium. At the time that he did his early development work on flaked corn, wheat and other grains, W. K. Kellogg was business manager of the Sanitarium, which was headed by his brother, Dr. John Harvey Kellogg.

Dr. Kellogg had a theory that persons suffering from indigestion had difficulty digesting starch. Knowing that toasting converted starch into dextrin, he began grinding and toasting bread and serving it to some of his patients having indigestion. He and W. K. Kellogg then began a series of experiments to see whether they could flake and toast the grains themselves. Out of this work evolved various types of flaked cereals which were served to Sanitarium patients. In 1896, U. S. Patent No. 558,393 was issued to Dr. Kellogg, covering "Flaked Cereals and Process of Preparing Same." Later experience indicated, however, that it was not possible to produce flaked corn by this particular method.

The original work was done with

NOMINATED FOR PACKAGING'S HALL OF FAME BECAUSE:

- **First on the market and first in sales among ready cereals for half a century, they proved the possibilities of a paper protective package.**
- **Their packaging through all the years has been exemplary in identification and protection aspects.**
- **Research behind them has contributed much to methods of high-speed paper package production.**
- **They were pioneers in creating a trade character on the package and are still masters at promotional use of package surface.**

wheat, cooked for varying periods of time and then put through a set of hand-operated rollers. The doctor put the wheat through the rollers while W. K. Kellogg squatted beneath and scraped the product off with a chisel. Later a paper-cutting knife, borrowed from a local printing plant, was used for this phase of the operation. After numerous disappointments, the brothers were successful in producing wheat flakes, which were named "Granose Flakes" and were first served to a convention of Seventh Day Adventist ministers in Battle Creek.

Beginning about 1895, W. K. Kellogg and Dr. Kellogg engaged in the manufacture and sale of flaked cereals. For this purpose, the Battle Creek Sanitarium Co. was organized in 1897, followed by The Sanitas Nut Food Co., organized as a partnership in 1899 and incorporated in 1903. Wheat flakes were made first and corn flakes about three or four years later, in 1898. The carton which was placed on the market at that time bore the product name, "Sanitas Toasted Corn Flakes," and the notation, "Sold by Battle Creek Sanitarium Co., Ltd." Emphasizing the health-giving properties of the product, a picture of the Sanitarium appeared upon the carton. Like the Granose flakes which had been brought out earlier, the new Sanitas flakes were sold by mail order, principally to former Sanitarium patients.

As repeat orders continued in increasing volume, W. K. Kellogg became convinced that the corn flakes had genuine appetite appeal and that their full market potential could never be reached so long as they were sold principally as a health food, although by November, 1905, output was averaging 33 cases per

NOW **Today's line includes these four sizes of packages—all of which are recognizable descendents of the original 1906 package design, but are now modernized and strengthened for merchandising appeal.**

THEN

ORIGINAL PACKAGE of 1906 was very similar to this 1910 version, reproduced here from a poster. More than 7 billion packages of this product have been produced in 46 years.

ORIGINAL "SWEETHEART of the Corn" was a stenographer who joined the company in 1910. Note her picture on the side panel of the package shown at the left, where it appeared for years.

TWO WAYS OF SERVING the popular individual package. The user may easily tear back the perforated top to empty the contents into a bowl, or he may open the patented perforated flaps on the back, cut the waxed-paper bag and then use the package as its own "Kel-Bowl" serving bowl.

day. This marked a considerable advance over the time, about 1898 or 1899, when Mr. Kellogg initiated his work on flaked corn with 10 lbs. of hominy grits purchased from Charles Austin.

Mr. Kellogg and Charles D. Bolin, a St. Louis business man who was a frequent visitor at the Sanitarium, discussed the commercial possibilities of the product with Dr. Kellogg, but for various ethical and business reasons the doctor was unwilling to undertake large-scale manufacture and distribution of corn flakes.

The way was cleared for volume marketing of the product on Feb. 19, 1906, when the Battle Creek Toasted Corn Flake Co. was incorporated by W. K. Kellogg and several associates. The new organization, headed by Mr. Kellogg, acquired the corn flake business which had previously been conducted by him and his brother. The Kellogg Co., a Delaware corporation, was organized in 1922 and succeeded to substantially all the assets of the Kellogg Toasted Corn Flake Co. In 1907 the name of the latter concern was changed to Toasted Corn Flake Co. and, in 1909, to Kellogg Toasted Corn Flake Co. In January, 1908, W. K. Kellogg relinquished his interest and position in the Sanitas Nut Food Co. and in March of the same year Dr. Kellogg resigned as a director of the Toasted Corn Flake Co. From the packaging standpoint, another tie with the past was broken with removal of the Sanitarium picture from the package, in line with Mr. Kellogg's growing conviction that the product should be promoted for its appetite appeal and not merely as a health food.

The first package

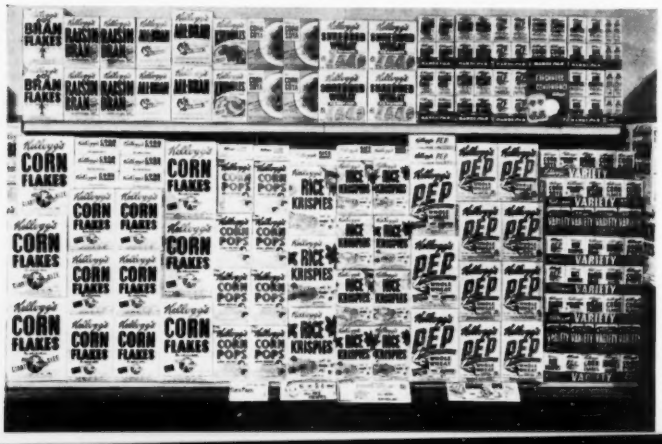
The 1906 package sold for 15 cents and contained about 8 oz. of Corn Flakes. A feature of the early packages was a patented outside waxed paper wrapper intended to insure freshness of the product. Later, the package was improved by transferring this wrapper to the inside of the package, where it remains today. This modification was made because it was discovered that with the wax wrapper on the outside, the product could draw moisture and odor from the paperboard carton itself—a problem that was eliminated with the adoption of the inner bag.

Packages destined for shipment to humid climates now receive an extra outer wrap of waxed paper which more than doubles the degree of moisture protection. In this manner, the crispness and flavor of Kellogg's Corn Flakes and other cereal products is insured even in humid areas, such as some of our southern states. In 1938 the Kellogg company pioneered the use of a special glassine inner bag in place of a sulphite bag. This greatly increased the protection to the food.

The ready acceptance of Kellogg's new ready-prepared flaked cereals did not go unobserved by other business firms. It was not long, in fact, before a breakfast-food boom swept the nation, centering principally in Battle Creek and helping to establish that city as the cereal capital of the U. S. Around the turn of the century, some 42 different brands of wheat flakes were offered for sale in the Battle Creek market. Numerous food concerns sprang into existence there; many, however, did not get past the stock-selling stage. Because of this intense competitive situation, the Kellogg package from the beginning strongly played up the Kellogg name, which was featured boldly across the top of the display panel, and the signature of W. K. Kellogg, with the notation, "None genuine without this signature." Corn flowers flanking the product name, which appeared in large capital letters, provided another feature of the early packages. At one time, no less than 106 other brands of corn flakes were on the market in various parts of the country, but—largely due to the prestige of the Kellogg name—the dominant position of the Kellogg product was never really threatened.

It should be remembered that in 1906 there was no Pure Food Law and the purity and cleanliness of packaged foods was by no means as-

TYPICAL MASS DISPLAY of Kellogg cereals in supermarket suggests how line has grown since Corn Flakes started it all. Note effective use of white boxboard and strong lettering to give a crisp, appetizing look.



sured. Of tremendous value in establishing the popularity of Kellogg's Corn Flakes was the association of this brand with the Battle Creek Sanitarium, which was a health center of nationwide fame, and Dr. Kellogg himself. People felt that this brand just had to be pure and healthy. It is greatly to the credit of W. K. Kellogg, packaging-wise, that he recognized the value of this association and played it for all it was worth.

When early Kellogg advertising described Corn Flakes as "the sweetheart of the corn," it was no empty phrase. Actually, in the manufacture of the product from selected corn, the bran coat and the germ were first removed, leaving the heart of the grain (the endosperm) which is ground to make hominy grits. Grits of uniform size and flavoring are then mixed, thoroughly cooked, dried, rolled into flakes and oven-toasted to a rich, golden brown.

Kellogg soon devised an impressive way to dramatize this phrase directly on the Corn Flakes package and in its advertising. On one of the side panels appeared a picture of "The Sweetheart of the Corn," modeled by Miss Fanny Bryant, who was employed by the company as a stenographer. A wholesome, attractive girl, she was shown holding an armful of corn shocks. Featured in color magazine ads, as well as on the Corn Flakes boxes, Kellogg's "Sweetheart of the Corn" became as familiar to many throughout the U. S. as Mary Pickford, a current motion picture idol.

This primary use by the company of a personality to symbolize its products foreshadowed a policy which has been widely followed in more recent years—the practice of keying many of the Kellogg cereals to sprightly elves, cowboys, movie stars, radio and television luminaries and other figures as a groundwork for intensive promotion, much of it addressed to the younger element. In 1948, when the Kellogg Co. observed the golden anniversary of the origin of Corn Flakes, the company looked up "The Sweetheart of the Corn"—by then Mrs. Fanny Johnson—who obliged with a publicity photograph.

On the occasion of the same anniversary, many interesting statistics were released covering Kellogg operations during the period from 1906 to 1947, inclusive. Figures which covered aggregate production of Kellogg's Corn Flakes throughout the world during that period showed a total of more than 3 billion, 207 million pounds of Corn Flakes produced, utilizing some 6,658,000,000 lbs. of corn. The amount of paper required for packing that quantity of Corn Flakes was estimated at 1,361,277,771 lbs., equivalent to nearly 180 million cases each containing three dozen 8-oz. packages of Corn Flakes, or approximately 183,139 railroad carloads of the breakfast food. It was pointed out that the 6,414,989,796 eight-ounce cartons represented by this total would encircle the globe more than 36 times at the equator if laid end to end, or would extend 3.8 times the distance to the moon if stacked. Their combined cubage was equal to that of 15 solid Empire State buildings.

Today the various Kellogg factories consume more than 484 million pounds of corn annually in the production of Corn Flakes.

Along with its constant attention to better merchandising, the company has never overlooked the importance of improved packaging methods. Through the years, the Kellogg organization has introduced a number of important packaging innovations, such as the patented Waxtite inner bag, and has played an important part in the development of machinery which would handle its enormous packaging job more efficiently at reduced cost. Today, in viewing the many packaging lines at the company's main plant in Battle Creek, many types of package printing, gluing, forming, filling, closing and overwrapping equipment may be seen in operation. Methods are constantly improved as better types of equipment become available. Many of these improvements have originated directly within the Kellogg or-

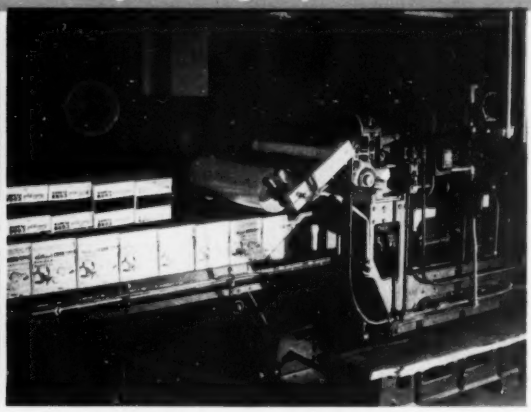
HANDI-PAK, offering eight single-serving packages in a printed cellophane overwrap, is becoming popular in homes. It has the advantage of keeping each serving factory fresh until used—and if package is used as a bowl, dish washing is eliminated.

VARIETY PACK offers 10 packages of seven different Kellogg cereals—for variety and to meet differing family tastes. It helps hold brand loyalty. Note premium offers on bottom of tray, typical of all Kellogg packages, now a "must" for all cereals.

PREMIUM offers on current Corn Flakes package. Pioneered by Kellogg many years ago, such advertising use of package surface has particularly high attention value because cereal package customarily sits on breakfast table and is read by entire family. The juvenile premiums and cut-outs are frequently changed.

Corn Flakes package production

CARTON FORMER, with folded unformed cartons entering at left. Kellogg makes most of its cartons.



'SACKER' MACHINE cuts waxed paper from roll, forms inner bag by heat sealing and drops one in each carton passing through.

ganization, or have been worked out by Kellogg in cooperation with equipment manufacturers. For example, the company started work in 1920 on machines for forming an inner waxed bag. The earliest use of this bag was about 1921, although the patent on this operation was issued in 1932.

Showplace plant

The important role of packaging in modern food manufacture is dramatically presented at the Battle Creek plant, the world's largest factory devoted to manufacture of ready-to-eat cereals. Here some 50,000 visitors annually, from throughout the U. S. and many foreign nations, are welcomed and given escorted tours which cover both production and packaging operations. The area devoted to handling of individual-serving packages alone includes 29 packaging lines each producing 4,000 packages per hr., with a total capacity of more than 3 million packages each 24 hrs.

Kellogg packaging, like other continuous operations, is divided into four 6-hr. shifts, in conformity with the policy pioneered in 1930, during the depression, by W. K. Kellogg.

The packaging equipment automatically forms the inner liner, forms the carton from a preglued blank, folds and glues the bottom of the package, fills it with the proper amount of cereal by volume and tamps the contents. Then the packages move through a top sealer which heat seals the inner bag and folds and closes the top of the outer box.

Delivery of Corn Flakes and other products to the packaging lines is by gravity, directly from the floor above. Just before packaging, the cereals are restored to their whole grain level of vitamin and minerals by means of a spray-type process pioneered by Kellogg in 1938. Automatic scales maintain the accuracy of the filling operations. After the boxes have been filled and closed, they are packed manually in corrugated shipping cases which hold 12, 24, 36 or 48 packages. Before being closed, the shipping cases move via conveyor through final check-weighing operations to make certain that they meet weight requirements. The cases are automatically directed to the proper scale line by means of a mechanism which measures their size as they move down the line.

MULTIPLE LINES for forming, filling and sealing the single-service packages—which are produced at a prodigious rate—converge at a single take-off point. Each of these lines produces 4,000 packages per hour.

is highly specialized

CARTON FILLER, one of a large battery, automatically fills larger cartons by weight, subject to subsequent check weighing.

CASE PACKING completes operation after machine heat seals bag top, folds over and glues carton flaps.

Although a number of companies supply cartons, boxboard, waxed paper and other packaging supplies to Kellogg, most of the cartons are produced within the plant on the company's own printing and box-making equipment. Packages are printed by letterpress process in from two to four colors on a battery of eight or 10 high-speed rotary presses into which boxboard is fed in roll form. One of these presses is described as the fastest four-color rotary press of its type in the world. It has a web speed of 600 ft. per min. and a printing speed of 1,500 ft. per min. Kellogg packages are die cut directly on the presses and hand stripped; actually, most of them strip almost automatically with little or no manual labor.

After printing and stripping operations, the packages are fed through high-speed gluing equipment where the edge seams are made. Then they are placed on the packaging lines for forming, lining and filling.

Due to the variety of products handled and the frequent printing changes which must be made to accommodate recipes, premium offers, cut-outs and other carton features, a high degree of integration between package making and cereal processing operations must be maintained.

Other products

Although Corn Flakes were the original Kellogg ready-prepared cereal product and are still the biggest seller in the line, there are now a number of other important products in the family, including All-Bran, 40% Bran Flakes, Pep, Rice Krispies, Shredded Wheat, Krumbles, Raisin Bran, Corn-Soya and Sugar Corn Pops, the latter sugar-coated product added to the line in 1950.

It is notable that the company has not only the No. 1, but also the No. 2 seller of the dry cereal field, for, according to available information, Rice Krispies have ranked second in the industry ever since their introduction in the late 1920s and is the largest-selling rice cereal in the world.

With the exception of Sugar Corn Pops, as specified later, all the products utilize the same basic type of package as Corn Flakes.

The multiplicity of products represented and the ever-changing merchandising requirements pose a real package-design challenge. In a sense, the packages which carry Corn Flakes and other Kellogg items to the consumer must have a dual personality. First and foremost, they function as an integrated team, clearly identified as to their common origin to facilitate a unified merchandising approach. This basic identity, created by similarity of surface design on the front panel and featuring the prominent use of the Kellogg name, bold capital letters on the product identification, listing of ingredients, patent notations, etc., is retained without substantial alteration. Beyond this point, however, diversification is the rule: other package panels show the widest possible variation as the constant parade of box-top offers, recipes, cut-outs and other package "gimmicks" rolls on. It's literally a merchandising circus, with the packages themselves serving as ringmaster and performer rolled into one.

Competition for panel space on the

DEVIATION from the standard Kellogg waxed inner bag for cereals is aluminum foil material used in heat-sealed inner pouch for a new candy-coated cereal—Sugar Corn Pops—requiring super moisture protection.

Kellogg boxes is intense and hardly a square inch of carton area is allowed to lie idle. For example, the back panel of the current Corn Flakes packages carry a series of cut-outs of "Official Space Cadet" equipment—visors, gauntlets, insignia, ray guns and other paraphernalia. This material, intriguing to Atomic Age youngsters, ties in with the "Tom Corbett, Space Cadet" television show sponsored by Kellogg. Non-duplicating groups of items are printed on different boxes, encouraging children to collect the complete set. One side panel of the package is devoted to a premium offer for a plastic aircraft carrier, obtainable for one Corn Flakes box top and 25 cents.

Near the bottom of one side panel is an invitation to visit the Kellogg plant at Battle Creek. The other side panel carries "sell" copy and a recipe for making Rice Krispies Marshmallow Squares—thus promoting another member of the Kellogg cereal family. The top flap of the carton carries a "silver unit"—a small stamp-like cutout that is used in connection with Kellogg's continuing offer of monogrammed silverware. Similar units, in multiples of one or more, appear on many of the other Kellogg packages. Since they tend to accumulate fast if the customer keeps buying the Kellogg line, they provide a powerful sales incentive.

Thus are the Kellogg cereal boxes put to work. Their primary functions —those of product protection and identity—are never neglected. Once they have met this requirement, however, they become powerful merchandising aids. Of course, if patrons are going to cut up the boxes in order to take advantage of premium offers, transform them into ray guns or obtain those ubiqitous silver units, they will naturally consume the product. The package thereby tends to destroy itself, once in the hands of the ultimate consumer, and in the process lays the foundation for new sales.

In this connection it might be pointed out that the construction of the Kellogg package, with the surface design printed directly on the paperboard container, lends itself perfectly to this type of promotion. Unmistakable product identity is preserved until the package is actually destroyed or discarded.

There is one package in the Kellogg cereal group somewhat different in construction from the others. This is the container for the new Sugar Corn Pops, a sugar-coated cereal requiring unusually effective protection against moisture to keep the product from caking. The display faces of the packages feature the product name in a rectangular panel at the upper left corner, with a large color illustrations of Guy Madison and Andy Devine, movie and TV stars, against a yellow background. On the back panel are cut-outs of four types of revolvers in the Wild Bill Hickok "Famous Gun" series. Youngsters are encouraged to collect the entire set; each package contains one gun only, along with historical information and small sketches of other guns in the group.

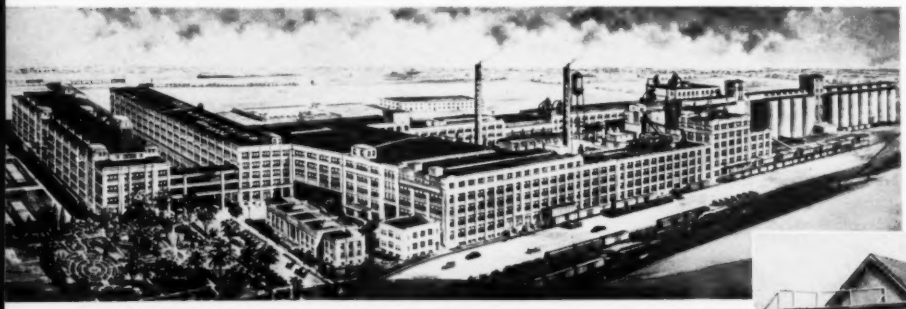
One side panel of the box carries nutritional and sales copy concerning the new product (which may also be eaten like candy) and the other is devoted to special features of the package itself. Four small sketches illustrate the package copy, which reads as follows: "Sealed fresh in pure aluminum! Kellogg's new aluminum weather-foil inner pack keeps Sugar Corn Pops crisp and fresh up to ten times longer. Lift up fold tabs and open carefully so as not to tear foil. Fold down and reseal after every serving of Sugar Corn Pops. Keep them fresh and crisp until all are gone. USE IT AGAIN. After Sugar Sugar Corn Pops are all gone use inner pack as a handy, sturdy sandwich bag or refrigerator bag."

Fountainhead of ideas

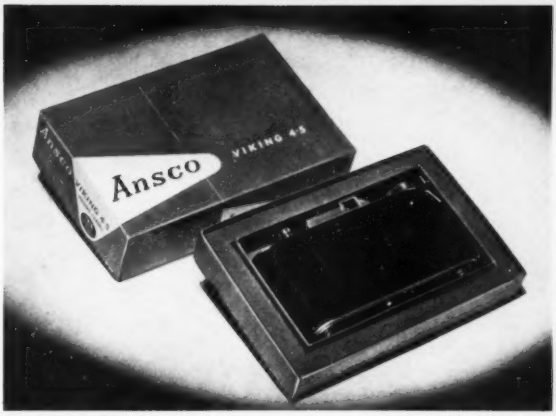
Kellogg Co. has always been a leader in adopting new package features and combinations to meet changing retail trends or to give the buyer a "plus" value. As early as 1938, the company introduced Corn Flakes and other products in assortment packages containing 10 individual cartons of various cereals. Market experience has amply illustrated the value of Kellogg's Variety package. The small 1-oz. packages are practical because their entire contents are consumed at a single serving, eliminating any problem of flavor loss or moisture pick-up in leftovers.

In addition, the Variety pack has the advantage of multiple choice, enabling each member of the family to select his favorite cereal. The individual packs have also long since proved their value in restaurants, hospitals and other locations where meals are served in large volume. Here they greatly simplify inventory and insure that each customer gets a fresh, intact serving of cereal, reducing handling problems to a minimum. The package is opened immediately prior to serving, often by the patron

(*This article continued on page 193*)



GROWTH OF PLANT from a frame shed in 1906 to the enormous Battle Creek operation of today was brought about primarily by Corn Flakes. World's largest cereal plant, Kellogg main factory attracts more than 50,000 visitors yearly.



SIMILAR BOXES are used for four new Ansco cameras. Identifying color is brilliant red with trademark appearing in reverse white. All of the boxes are of set-up telescope construction, with the camera name printed on the top of the box and on one side.

HINGED LID, covered with red velour-finish paper houses the Ansco Karomat camera. All the boxes have recessed interior platforms to show the cameras off to good advantage when open for display.

Ansco promoters

COLORFUL BOXES AND DISPLAYS

FOR FIVE NEW CAMERAS REFLECT A TREND IN PHOTOGRAPHIC FIELD

Packages for amateur cameras are becoming more than mere boxes to protect and identify the contents. The trend in the photographic field today is to make the package a useful merchandising tool that can be used in store display and that will serve as an attractive gift box.

An interesting example is the new line of packages for five new cameras, introduced by Ansco, Binghamton, N.Y. Four of the cameras are housed in similar telescope boxes. These include the Ansco Speedex f:4.5 Special, the Ansco Speedex f:4.5, the Ansco Viking f:4.5 and the Ansco Viking f:6.3. The fifth package, which holds the Ansco Karomat camera, is also a set-up box, but has a hinged lid. All of the boxes have an interior platformed base with a recessed well which displays the cameras to advantage when the boxes are open.

The first four boxes mentioned all feature a new brilliant red with the Ansco trademarked design in reverse white. Each camera is identified on top and on one side of the box to accomplish two purposes—quick identification for the dealer and excellent attention-getting value for shoppers.

The hinged box for the Ansco Karomat camera has been given a little more elaborate treatment in that the outer box covering is a red velour-finished paper. The inside of this box also is brilliant red with product and company identity inside and out.

Also new to promote Ansco cameras are two displays which are available to Ansco dealers on minimum merchandise orders of $150 per display, or $300 orders to obtain both.

One of the displays is quite unusual. It is a set of four paperboard blocks, plain red on two sides, printed with the Ansco name, and covered with human-interest photographs on the other four sides. Depending on space available, a store can use one, two, three or all four blocks, arranged as desired, on which to place cameras in a window or on a counter. At all times a photograph and Ansco identification are visible. Each photograph, too, carries the Ansco name in one corner.

The other display is a simple stand made of light natural-oak plywood, with a red ledge space for camera display and the trade name lettered in gold—a good piece to harmonize with modern store interiors.

CREDITS: *Package and display design, Raymond Loewy & Associates, New York. Set-up boxes and display blocks, F. M. Howell & Co., Elmira, N. Y. Cover paper for Karomat box, Nashua Gummed & Coated Paper Co., Nashua, N. H.*

PAPERBOARD BLOCKS, plain red with trade name on two sides and with photographs on the other four sides, offer a wide variety of arrangements for window and counter display. The Ansco name is always visible.

COLOR PLATE COURTESY GRIFFIN MFG. CO.

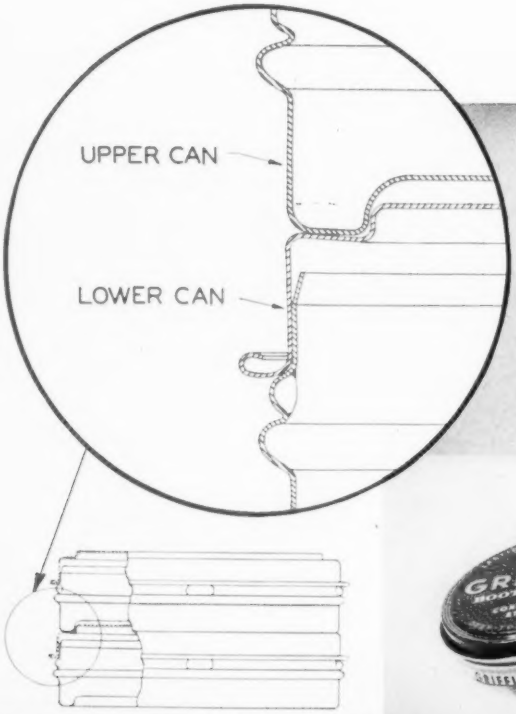
RICH COLOR TONES, exactly matching shoe shades of Griffin's six new Microsheen polishes, are achieved on can lids by leather-grain design and exacting detail in lithography, involving 13 plate changes and 33 printings. Cans of polish are illustrated here in their easel-backed display box that wins important counter-display spots for the product.

You

If you use a traditional container and feel that you're getting about all the package performance that can be expected, there's a strong challenge to be found in the latest packaging success achieved by Griffin—the famed old name in shoe polish.

Griffin, using the long-accepted, highly functional, flat, round, metal shoe-polish can, has come up with five distinct packaging improvements for its new "one-stroke" boot polish. These are: (1) greatly increased eye appeal, (2) improved color coding, (3) use of back panel for enumerated selling points, (4) a built-in, non-tip stacking feature and (5) an improved shelf carton that makes stocking and re-ordering easier.

Altogether, these packaging fea-



EFFECTIVENESS of interlocking is such that this stack of cans can be tipped at a 45-deg. angle without spilling. Note enumerated selling features in the depressed area of the base.

can improve a can

GRIFFIN SHOWS HOW WITH NEW SHOE-POLISH CONTAINERS THAT INCORPORATE IMPORTANT ADVANCES IN BOTH BEAUTY AND FUNCTION

tures represent, the Griffin people feel, a significant advance over any shoe polish container previously available.

Griffin's new container, like the polish itself, created a distinct impression when Microsheen boot polish was recently introduced to the trade through a full-scale program of nation-wide product promotion.

Containers for shoe polish have long been characterized by their utilitarian and sometimes drab appearance. The Microsheen container is readily described as "handsome." It has the important "quality" look—particularly important to a new, improved product which must sell for a little more than the standard price.

There are six shades in the Microsheen boot polish line—tan, brown, mahogany, cordovan, oxblood and black—and each has a metal cover lithographed in simulated natural-leather color exactly reproducing the shade as it will appear not in the can but on the shoe. This means quicker and easier identification by the consumer. While color coding for polish is far from new, it must be noted that probably never before have the colors been reproduced so realistically and functionally, nor has a design ever before so clearly and strongly said, "leather."

The color scheme for each can is aluminum, gold and the shade of the polish. The design, itself, simulates scotch-grain leather. An embossed appearance is simulated so realistically by the lithography that the metal surface appears to have a three-dimensional texture such as is achieved with actual embossing. There are 13 plate changes and 33 printings involved in producing the individual designs for the six shades of polish.

A minimum of copy on the lids aims chiefly at strong brand and product identification. The No. 1 design objective is an over-all suggestion of dignity and quality. The container is intended to lend itself to prominent and effective display especially in shoe stores, department stores and other "class" outlets.

Seven sales points are enumerated on the back panel of the container to give an at-a-glance story of the product's advantages, which include staining to restore the appearance of scuffed shoes, longer-lasting shines and polishing "with the first stroke of the brush." The new polish, in effect, brings to shoe shiners advantages similar to those offered housewives by the newer "no-rub" type of furniture polishes and floor waxes. The 62-year-old Griffin company reports that its polish is the result of new scientific development made in wax formulating.

An engineering feature of the container is manufacture of the lid and base to very close tolerances, thus producing a tight fit. This is designed to give better container protection to the polish by preventing it from drying out. The can is opened by a twist of a coin between the flanged rims of the lid and base.

Dealer conveniences

Two significant innovations for the convenience of dealers deserve special comment.

The first of these, which has already won enthusiastic praise by dealers, is the simple idea of an interlocking construction so that cans can

SECURE STACKING is assured by a simple construction feature that permits the tops and the bottoms of the cans to nest one within the other. Stacks 12 high can be pushed around without any fear of tipping.

SHAPE SYMBOLS on ends of shelf cartons simplify inventory control, reduce printing costs. Cans are stacked flat in carton for better display—with fold-back header—when shelf carton is used as counter unit.

be piled to shelf height, as in a supermarket, with little danger that orderly stacks will be pushed over and jumbled by a searching customer. This is simply provided for in the can dies by drawing the lid to a raised circular area which fits within a corresponding debossed area of the base of the can above it in a stack. An accompanying cross-section diagram details this construction and a photograph demonstrates its effectiveness by showing that a stack of five cans may be tipped to a 45-deg. angle without toppling. The interlocking fit is not so close, however, as to cause the slightest difficulty in lifting a can vertically off the stack.

Griffin had a selfish purpose, too, in assisting dealers to keep orderly shelf displays of the new boot polish. The stacking feature assures shelf-space economy and this, it was felt, would encourage dealers to stock and display the full line of six shades and thereby stimulate added sales.

Traditionally, the big volume of sales has been in ordinary black and brown shades of shoe polish. Black may be black, but Griffin deplores the idea that brown is brown. With the aid of the new packages and their expert color lithography, suggesting the subtle differences of color shading between various shoe leathers, the company is encouraging the consumer to pay closer attention to the exact tone of his shoes and to acquire a different can of polish for each pair of shoes. It has not been hard to sell the dealer on the extra sales dollars to be garnered by this technique.

The second contribution to dealer convenience is a system of coding 12-can stock-shelf cartons by shape symbols, so that the stock boy need not pick out subtle differences in color in a dimly lighted stockroom, nor remember the six different color name designations. As shown in the accompanying illustration, end panels of the shelf cartons for brown polish are identified by a diamond imprint, cordovan by an oval, tan by a square, oxblood by a concave rectangle, etc. This not only makes it easy to pick out the right kind of polish to refill depleted sales shelves, but it shows at a glance the inventory situation of the six different shades and encourages prompt re-ordering to keep the stock up.

Tops of the cartons are cut and scored to fold back into a display header if desired. The box, however, is very economically produced. With the shape symbols replacing color coding, all cartons are similarly printed with black on a yellow-stock board.

Promotion and display

Griffin's Microsheen boot polish was introduced at an elegant trade showing at the Ambassador Hotel in New York and the initial campaign is now being followed up with intensive regional sales activity.

A complimentary package of six colors which was sent to many thousands of shoe stores, repair shops and other outlets also served to introduce the platform-box, easel-backed display that is counted on to win the new polishes a counter-display spot in even the most exclusive shops.

As shown in the accompanying color plate, the six cans are mounted in die-cut circles in the box platform set in an easel-mounted tray. High-gloss papers and quality workmanship give the display an unusually rich look for a paper construction. The base tray is covered with a brilliant red gloss paper and the platform is shining jet black with a minimum of copy printed in gold. As shown in the color illustration, when a can is removed from the display the red base shows through as an insistent signal that the can needs to be replaced.

The easel mounting makes it possible to stand the display on its edge, picture-frame fashion, and show the six cans in a vertical position. The die-cut circles hold the bases of the cans with a snug friction grip so that the cans won't fall out of the platform.

A handsome presentation folder accompanied the complimentary package, announcing the new product's advantages and strongly emphasizing the container innovations. The folder also pointed out that Microsheen boot polish would be backed with plenty of advertising. Griffin, reportedly, is the leader in the $30-million shoe polish industry and is the biggest and most consistent advertiser.

CREDITS: *Cans, Continental Can Co., Inc., New York. Counter display box, Miro Container Co., Inc., Brooklyn, using "Kromekote Colorcast" paper supplied by The Champion Paper & Fibre Co., Hamilton, Ohio.*

Economical duster

SPECIAL RUBBER BULB CAP ON A FIBRE CONTAINER AFFORDS CONTROLLED APPLICATION OF INSECTICIDES

TIP SNIPS OFF easily with scissors; package is ready to use.

CONTROLLED application is achieved by varying pressure.

REFILLING may be done from a companion container by flipping off rubber bulb and replacing it over metal bead of canister.

A type of dispenser package needed for many types of powders, particularly insecticidal dusts, is one providing an economical spraying device that will direct the powder to a restricted area. The usual bellows type of dispenser is not suitable for this purpose because of the diffusion of the spray. Certain other types of rubber constructions are costly, either because of basic expense or the type of equipment required for filling.

Lethelin Products Co., Inc., Mount Vernon, N. Y., has solved this problem with an entirely new type of device, which it has developed and applied to two products, Magikil Ant Dust and Mysterious Roach Powder. The new container appears to have many advantages in this field.

Its simple construction consists of a specially molded rubber bulb cap which fits securely over the metal bead of a metal-end fibre canister open at one end. A perforated paperboard regulator disk fits inside the rim of the canister.

The bulb is equipped with a rubber tip which the user opens by snipping off the end with a scissors and the package is ready to use as a sprayer.

When applying the dust, the user is able to spray any amount or concentration and control the placing of it by varying the amount of pressure which is applied by the fingers to the rubber bulb.

Once a package has been purchased, the user has the opportunity of refilling it merely by flipping the rubber bulb end off the metal bead of the canister and refilling from a companion refill container.

Lethelin Products had adopted this type of dispenser after considerable study and development work. The company formerly packaged the powders in an all-rubber syringe type of container. This had both of the disadvantages mentioned above: it was costly and it required the installation of special equipment for the filling of the container.

The new package can be filled on standard types of can-filling equipment and is reported to be much less costly than the previous package. It also provides ample surface on the canister body for adequate and simple wrap-around labeling.

The new package was first shown at a recent meeting of pest-control operators and was commended highly for its convenience in use. Since its introduction as a commercial package for two insecticidal dusts it has had wide acceptance in the variety-store field where it is sold. For example, Mysterious Roach Powder is now being sold in eight geographic districts by the Woolworth Co., covering all but the Pacific Coast, whereas this product had previously been sold in only four of this chain's geographical divisions. This is an increase from 600 to 1,300 in the number of Woolworth stores handling it.

The new package, for which patents are pending, is also recommended for body, food or any other type of powder which lends itself to spray application.

CREDITS: *Rubber spray tip manufactured by Colonial Rubber Co., Ravenna, Ohio. Container, The Canister Co., Philipsburg N. J. Paperboard disk, Interstate Die Cutting Co., New York.*

Economies for florists

Two-color printed cellophane wrappers that fit collar-like over bouquets have effected many economies in pre-packaged flowers for the Denver Wholesale Florist Co., Denver, Colo., one of the largest national wholesale distributors of carnations. In addition, they give maximum display to product and trade name.

Prior to the adoption of this packaging idea, from 1 to 4% of the blossoms were lost or damaged during handling. This loss is said to be practically negligible now, the collars thus having more than paid for themselves in savings.

The stepped-up speed and facility in handling the bouquets is another major advantage. The bunches of flowers may be handled and graded more rapidly without fear of costly damage.

The protection and ease in shipping afforded by the collars are also important. It is no longer necessary to separate the individual bunches of flowers with sheets of waxed paper in the shipping carton. The flowers with their collars are easily packed in shippers.

CREDIT: *Wraps, Milprint, Inc., Milwaukee, Wis.*

Picture story of a new bite-size cracker

The package design for Carr-Consolidated Biscuit Co.'s Crackin' Good Saltines plays up the "bite-size" feature of these new crackers. The crackers are the usual saltine size, but have a special score down the center which makes it possible to split each cracker to a neat bite size without crumbs or crumbling. One side of the package shows the biscuit whole and split; the other emphasizes the point still further by an illustration of two hands actually splitting the biscuit under the words, "Look Ma, No Crumbs!" followed by "split 'n eat." Below this is an illustration showing the biscuit whole, "or use full size!" In this manner, the customer gets the message in one quick glance and the design is clean, uncluttered and striking. Sides of the package point up the fact that the crackers inside are wrapped in four packs to assure crispness.

CREDITS: *Design, Jim Nash, New York. "Kalakote" wrap, Kalamazoo Vegetable Parchment Co., Parchment, Mich.*

HISTORIES

New way to dispense mercury

A new application for the polyethylene squeeze bottle is for marketing mercury specifically for use in instruments requiring a high degree of accuracy. The Bethlehem Apparatus Co., Hellertown, Pa., is now processing and marketing Instrument Mercury in a 5-lb. unbreakable polyethylene bottle equipped with a flexible dispensing tip that delivers the mercury directly to the instruments from the dustproof chamber in which it has been purified of all contaminants. Transfer containers, spillage and exposure of the mercury to impurities in the air are thus eliminated. The sealed tube is snipped off at the end and the mercury squeezed into the glass tube of an instrument as illustrated.

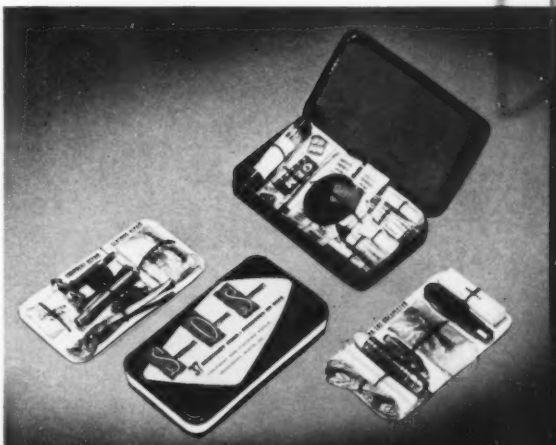
The mercury is suitable for use in manometers, polarographs, thermometers, cathode cells, meters and gauges of all types. For use in these instruments, it must be clean to a fractional part in a million. It is said that the mercury remains bright indefinitely when stored in these polyethylene bottles.

CREDIT: *Polyethylene bottle, Plax Corp., Hartford, Conn.*

37 items in a pocket-sized emergency kit

Thirty-seven different items are neatly and conveniently packaged in this lithographed metal container measuring only 3½ in. wide by 6¼ in. long by 1 in. thick. The kit, marketed by the Kardis Co., contains almost any item that the hunter or sportsman would need in any emergency—from tools for repairing an outboard motor to first-aid supplies—and fits easily into the hip or coat pocket. Each item is securely attached by an elastic cord to cardboard separators which fit snugly into the kit. The separators are printed to identify the location of each of the 37 items so that they may be replaced in their proper position. A complete list of all the items in the kit forms part of the design pattern appearing as a yellow decorative repeat on the dark green background.

CREDITS: *Design, Gerald Stahl, New York. Lithographed kit, Duho Products, Brooklyn, N. Y. Glassine bags, Center Printing Co., New York. Printed cards, J. L. May Co., New York.*



Semi-rigid vacuum pack

OSCAR MAYER'S COMBINATION OF SARAN FILM WITH METAL BASE, HANDLED ON CAN MACHINERY, PUTS NEW SLANT ON TRANSPARENT VACUUM PACKAGING

PACKAGE for 10 to 12 round luncheon meat slices uses a conventional No. 404 can end as its base, to which the saran film is sealed, as the vacuum is drawn, by crimping the base to a narrow paperboard collar.

SQUARE SLICES of luncheon meats use the square No. 6 can ends. Note the embossed trademark and code date on the base of the package.

One of the most significant packaging trends of recent years has been the rise of the flexible vacuum package, widely adopted for such items as sliced bacon, cheese and luncheon meats. Most of these packages, as previously reviewed in MODERN PACKAGING, consist of a laminated envelope of Pliofilm and cellophane or other suitable materials, evacuated and heat sealed on special equipment after the product has been placed in the package by hand or semi-manual means.

Recently Oscar Mayer & Co.—responsible for such innovations as the Cartridg-Pak for wieners and the Sack-o-Sauce pack having a sealed Pliofilm bag of barbecue sauce within a can of wieners—has been test marketing an entirely new type of self-service vacuum package for sliced luncheon meats.

Oscar Mayer's new Vacuum-Pak, as it is called, utilizes a rigid tinplate base similar in appearance to a can end, in combination with a sheet of unprinted transparent saran film and a colored paperboard "collar" which anchors the edges of the plastic film to the metal base. The combination of film with metal is believed unique in packaging. Several varieties of sliced luncheon meats are being marketed in this type of package, which uses either round No. 404 or square No. 6 can ends. It has the advantage of using conventional can-vacuumizing and closing equipment.

First placed in production on a small scale about a year ago, the package was sold in a few areas on a research basis. Products thus packed are still not widely available, since output is confined to the company's Madison, Wis., plant. However, plans are now being made to extend the new package to its other plants.

In effect, the new package duplicates the appearance of an inverted glass jar with metal lid, but with the closely drawn saran film taking the place of the glass. The package is

IN PRODUCTION, two loaves at a time are automatically sliced and dropped on conveyor in stacks of approximately correct package weight, then are adjusted to 9 oz.

THERMOPLASTIC LABELS are sealed to the saran surface of the finished packages by a heat-seal labeling machine. Labels carry weight and space for price marking.

readily opened by cutting through the film at the base.

The package was developed by Oscar Seiferth, Oscar Mayer general packaging engineer, and Glen Austin, machine development engineer at the Madison plant. Some features of the package are patented and other patents are pending.

According to Oscar Mayer officials, tests have shown that the new package is as effective as conventional vacuum packing in keeping sliced luncheon meats fresh. Fading and discoloration of the sliced meat are retarded as compared to conventional methods of transparent packaging. The combination of a tin base and the saran film drawn snugly over the product affords particularly good protection against drying out—one of the most serious problems encountered with sliced luncheon meats. The fact that the sausage can be displayed with full visibility face-up in the self-service case without sacrificing its keeping qualities adds to the attractiveness of the package. The rigid metal base contributes unusual strength to resist transport and handling, and adds but little weight.

The packaging operation in the Madison plant is as follows:

Prior to the slicing operation, fibrous casings are removed from sausage products slated for the new vacuum pack. Next the meat is automatically sliced and dropped onto a conveyor in stacks of the correct number of slices to make up a net weight of approximately 9 oz. Operators stationed on each side of the conveyor check-weigh the stacks and adjust them to exact weight, usually comprising 10 to 12 slices. Each stack is then placed in one of the tin bases and covered with a sheet of saran die cut to proper size. A $\frac{5}{16}$-in. spiral-wound paperboard collar or ring is next slipped down over the film. A vacuum is drawn by means of a closing machine similar to that used in regular canning operations and the metal base is crimped to the collar. This process provides an airtight seal between the saran and the metal base, the collar serving as a gasket.

INVENTORS of this new kind of vacuum package are Oscar Seiferth (left) general packaging engineer, and Glen Austin, machine development engineer at Oscar Mayer's Madison plant.

Product identification is provided by means of thermoplastic labels, applied automatically to the saran after the packages have been evacuated and sealed. The die-cut labels, printed in various contrasting colors depending upon the type of sausage within the package, are positioned on top of the package near the edge, affording maximum product visibility. Code dating of the package is embossed on the metal base.

EFFECTIVENESS in display is indicated by group of nine different Oscar Mayer sliced luncheon meats being sold in the new vacuum package.

CREDITS: *Metal bases and crimping and vacuumizing equipment, American Can Co., New York. Saran film, Dow Chemical Co., Midland, Mich. Paperboard collars, Forsberg Paper Box Co., Madison, Wis. Themoplastic labels, Arandell Litho Corp., Milwaukee. Label-applying machine, New Jersey Machine Co., Hoboken, N. J.*

keeps coffee and aroma

—BECAUSE THE

● Coffee stays roaster fresh and delightfully fragrant much, much longer, when packaged in PLIOFILM lined bags. That's a fact established in actual use, and reported to us by many coffee roasters.

Unlike ordinary liners, PLIOFILM permits carbon dioxide to get out, prevents flavor-stealing oxygen from getting in.

Good things are better

We think you'll like "THE GREATEST STORY EVER TOLD"—Every Sunday—ABC Network

taste far longer

BAG BREATHES!

PLIOFILM is transparent, air-, moisture-, liquidproof —unequaled as quality protection for meats, cheese, produce and a wide range of products. It's adaptable to all types of machine packaging. See what it can do for *you*. Have a talk with a Goodyear Packaging Engineer. For information, write: Goodyear, Pliofilm Dept., Akron 16, Ohio.

PLIOFILM
is truly product insurance—
practical—economical.

IT'S STRONG!

PLIOFILM super-market bags hold up to 10 pounds of produce without danger of breakage.

IT'S LIQUIDPROOF!

PLIOFILM is so moisture-tight, leakageproof, it safely seals pickles, sauerkraut, in their own flavor-making brine.

IT'S TRANSPARENT!

Sheets, towels and other textiles show up in their true loveliness—keep clean and fresh in textile-soft PLIOFILM despite constant handling by shoppers.

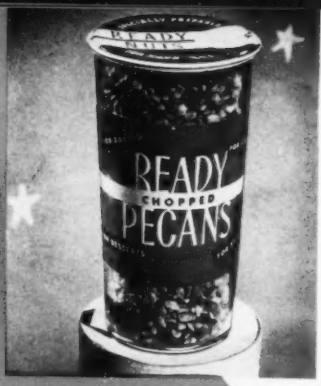
in Pliofilm

3-way protection against air, moisture, liquids

GOODYEAR PACKAGING FILM

Pliofilm, a rubber hydrochloride—
T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

PACKAGING PAGEANT



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1 Shelf appeal has been given the packaging for a new line of processed nuts marketed by the Ready Nut Co., Chicago. The glass jars have a center label that permits visibility of the nuts above and below. "Anchorglass" jar, and lithographed "Anchorvac" caps, Anchor Hocking Glass Corp., Lancaster, Ohio. Label design, S. Taylor Leavitt, Chicago; label printing, Mariani Printers, Inc., Chicago.

2 The package design for J. W. Beardsley & Son's new Bite Size Codfish Cakes—quick frozen, fried, ready to heat and serve—carries an appetizing illustration of the product exactly as it appears in the package. In addition to the platter stacked with the 20 cakes included in each package, one cake in actual size is illustrated. Design, Jim Nash, New York. Wrap, Marathon Corp., Menasha, Wis.

3 Duncan Hines Cookies have been introduced in two printed cellophane bag sizes and in two box assortments packaged in overwrapped trays, all corresponding in design. The same cellophane overwrap is used for both box assortments, with applied paper labels to distinguish contents. Packages designed by Clay Crane, San Francisco, and produced by Milprint, Inc., Milwaukee.

4 Pastel coloring of the package for "Prom," new home permanent-wave kit by the Toni Co., is designed to appeal to women's tastes. The blue, magenta, lavender and pink colors show up well on the 0.020 clay-coated carton stock. The product is prepared in three types, each designated on the package. Carton, American Coating Mills, Chicago, a division of Owens-Illinois Glass Co.

5 Gudo, a chocolate-flavored drink recently introduced in Puerto Rico by The Borden Co., is packaged in a lithographed metal can designed to appeal to youngsters. White lines resemble the white cord around drums and the

cans may be re-used by children as toy drums. Design, Frank Gianninoto, New York. Cans, American Can Co., New York.

6 Heavy, moistureproof cellophane, printed in three colors, is now used for wrapping Pacific Mill's "Extra Strength" and "Truth" muslin sheets. Pacific has found that this packaging, originally used only on highest-quality percale and muslin "Contour" sheets, keeps the sheets attractively and securely wrapped during shipping, storage and merchandising. Wraps, Shellmar Products Corp., Mt. Vernon, Ohio.

7 A heavy-industry product—Chase Brass & Copper Co.'s copper water tube—is given a merchandising advantage through the use of this sturdy corrugated carton printed with brand and product identification. Formerly crated in bulk, the tube is now packaged conveniently in coils of from two to five 60-ft. lengths. Carton, Waterbury Corrugated Container Co., Waterbury, Conn.

8 Newly designed labeling for Centlivre Brewing Co.'s Old Crown beer gives this product the extra selling punch required for today's self-service merchandising. The stylized crown against a white background is used on bottle labels, cans, carry-home cartons and shipping cases to aid consumer recognition. Design, Lippincott & Margulies, Inc., New York. Label, Koch Convertograph Co., Evansville, Ind. Bottles, Foster-Forbes Glass Co., Marion, Ind. Cans, American Can Co., New York. Carry-home cartons, Container Corp. of America, Chicago.

9 Six bottles of U. S. Vitamin Corp.'s vitamin capsules are protected in transit in sturdy overlap-partition corrugated boxes. Top flaps, when closed, form a secure six-cell partition box. Its one-piece, die-cut construction—quickly tied or taped for shipment—makes this an effective, economical container. Box, The Hinde & Dauch Paper Co., Sandusky, Ohio.

10 A smart, modern appearance has been given the packages for the line of slips, petticoats, gowns and pajamas marketed by Seamprufe, Inc. Printing is in black and white on coral. Side walls, an important surface when boxes are stacked, list the company's products. Boxes, Container Corp. of America, Chicago.

11 The distinctive feature of this plastic container for Andrew Jergens Co.'s all-in-one foundation and powder is its intricate filigree cover, achieved through molding two shades of styrene—white, carrying the design, over powder blue. The package gives a luxurious effect, yet can be mass produced at low cost. Case molded by Kusan, Inc., Nashville, Tenn., using Monsanto Chemical Co.'s Lustrex and Dow Chemical Co.'s Styron.

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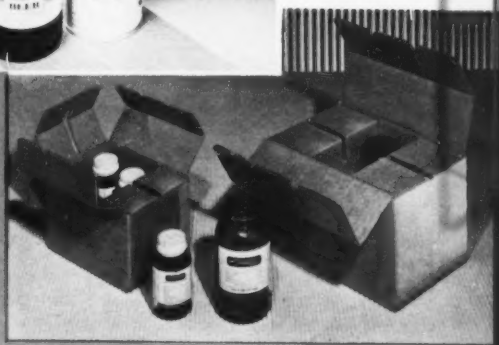

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IN THE DE-DENTER, after chimes are straightened, powerful internal air pressure blows out all dents in used drum. Capt. W. H. Stover, commanding officer of Norfolk Naval Supply Center watches operation.

HOT CLEANSING chemicals are shot into each of the drums from below as they move along the reconditioning line. This is followed by a hot water rinse. Lieut. Com. T. S. Stern, officer in charge of the depot, explains the reconditioning process.

Hospital for drums

NAVY'S NORFOLK RECONDITIONING PLANT MAKES OLD DRUMS AS GOOD AS NEW AND TURNS THEM OUT AT RATE OF 1,000 A DAY

The Navy has started reconditioning oil drums at the Naval Supply Center, Norfolk, Va., and soon will be turning them out at the rate of 1,000 a day. The process, which takes old, beaten-up drums and turns them into shining, virtually new barrels, ready for immediate use, is expected to save the Navy between $6,000 and $7,000 a day when compared with the cost of buying new drums, in addition to saving much critical steel.

The new plant, housed in a building 80 by 120 ft., is operated by the Supply Center's Fuel Supply Depot at its nearby facility on Craney Island at Hampton Roads, Va. Lt. Com. T. S. Stern, Supply Corps, U. S. Navy, is in charge of the depot. The Naval Supply Center is commanded by Rear Admiral John E. Wood, SC, USN.

The plant was established according to Com. Stern, primarily to conserve scarce steel and save money, as well as to exercise the tightest quality control over the Navy's petroleum products.

The idea for the plant was born in the Bureau of Supplies & Accounts, Navy Department, Washington. The steel that was going into new drums when old drums might do just as well had caused some concern. The monetary saving and quality-control factors were also weighed and machinery was soon set in motion to establish the Norfolk plant.

With 77 lbs. of steel going into each new drum, the saving of this critical item alone for use in other manufacture is enormous. Formerly, thousands of Navy drums were disposed of by sale for re-use by the purchaser or were sold for scrap.

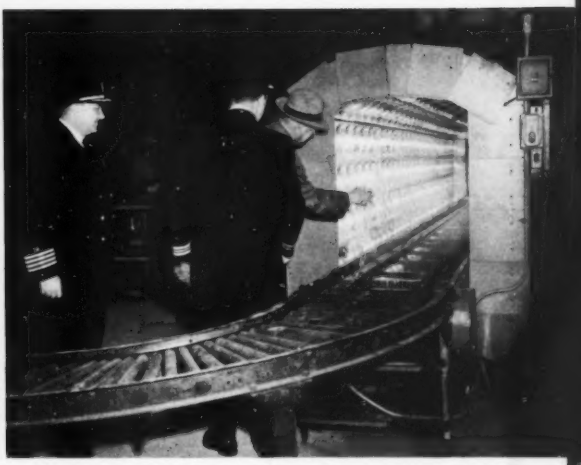
Many were carried in ships to Europe and once the petroleum product had been used there, the drums were discarded. Now these drums are coming back in droves, filled with water and carried in ships' bottoms as ballast. Thousands of others are being sent to the Norfolk center from far-distant points for reconditioning.

Reconditiong process

Acres and acres of the fuel supply depot's branch at Craney Island are filled with rusted, banged-up, battered petroleum drums, awaiting their turn in the reconditioning plant. The plant itself sounds like a boiler factory. Inside, 30 men keep busy on the various refurbishing activities which go into converting the decrepit drums into shiny, virtually new ones.

On entering the building, the old

HOT AIR DRIES the inside of each drum after a warm, fresh water rinse and before inspection. If any rust remains inside the drum, it will be sent to a chaining machine where a diamond link chain scrapes the barrel clean.



INFRA-RED TUNNEL dries the final spray-paint coating, which is applied after the drum has been heated to "open its pores" for better absorption of the paint. Drums come out of the drying oven like new, glistening and sparkling.

OFFICIAL U. S. NAVY PHOTOS.

FINISHED DRUMS, coming off the conveyor line at the rate of one every 20 seconds, are reconditioned both inside and out and are indistinguishable from new ones. The Navy will save between $6,000 and $7,000 per day.

drum is placed first in a chime straightener which straightens out the edges or rims at each end. Next, it goes into a de-denter. Here, a powerful air blast is forced into the drum, blowing out all dents. Hot chemicals and vigorous automatic brushing in a "submerged stripper," and a stripper and buffer scour the old paint and external rust from the container. The barrels next are placed upside down and rotated over a rotary rinser and flusher. The rinser shoots jets of hot caustic soda inside the barrel through the small top opening. Warm fresh water rinses out the soda after all the oil sludge and dirt are removed.

After a hot-air hose placed inside the barrel has removed all moisture, an inspector, using a fluorescent light stick which he slides into the barrel opening, examines the inside of the container.

If the inspector finds any rust, the drum goes to a chaining machine. Workers insert diamond link chain into the barrel which is then placed on another machine which rotates the barrel. The chain scrapes the barrel clean.

At another machine, both ends of the drum are sealed by a double-end chime sealer. Next air is forced into the drum under pressure. If the pressure is maintained, the barrel is leakproof. If the pressure drops and the leak is not readily visible, the drum goes into a water leak detector to find the source of the leak. After the leak has been repaired, a vacuum blast takes off any pitted rust not removed in the early baths.

A preheating oven warms the drum and opens the pores of the steel for better absorption of the painting which is to follow. After being spray painted, the drum is carried slowly through an infra-red drying oven.

When the drum comes out of the drying oven, glistening and sparkling, the drum is virtually indistinguishable from a new one.

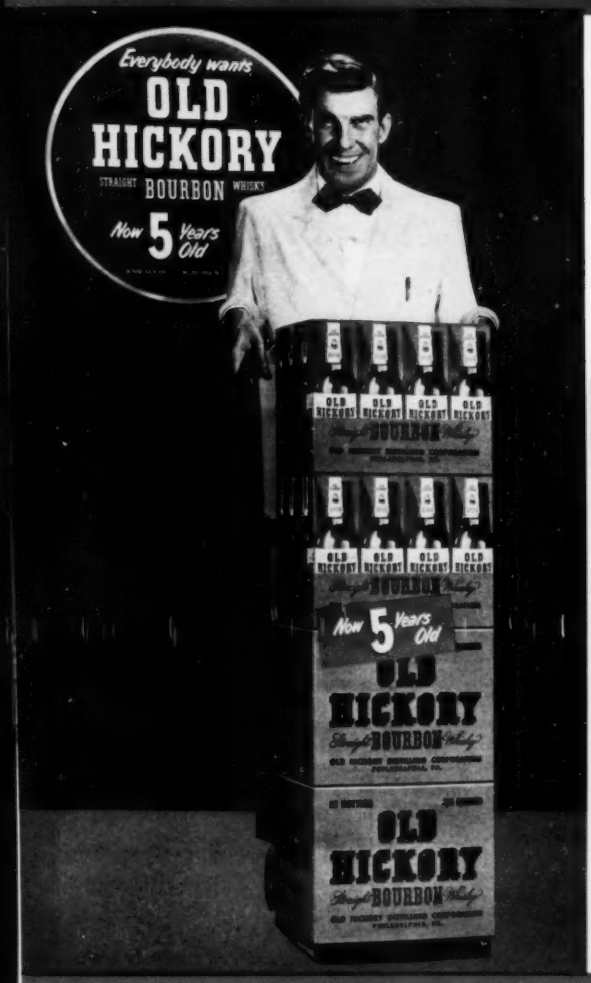
Before going to the storage area, however, a fog of preservation oil is sprayed inside and the drum is immediately sealed airtight. The entire process takes about a half hour. A finished drum will come off the lines each 20 seconds.

Three warehouses for internal storage soon will be finished and plans are now being considered for the erection of others. The drums may also be stored outdoors where their preservation will protect them for 18 months without any care whatever.

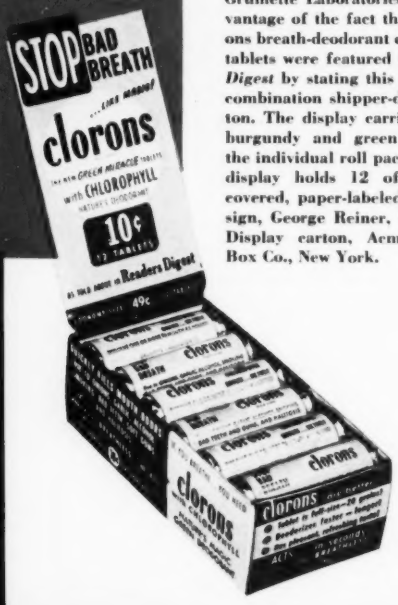
If an emergency arises, the drums may be pressed into service immediately, without even the preliminary inspection which it is necessary to give new drums.

Com. Stern, head of the fuel depot, stresses this advantage. While the immediate saving is great, the ultimate saving, should an emergency arise, might conceivably be very much greater. The Navy at that time would have on hand thousands of steel drums, which might be irreplaceable or replaceable only at great expenditure of critically short materials and money.

Display Gallery

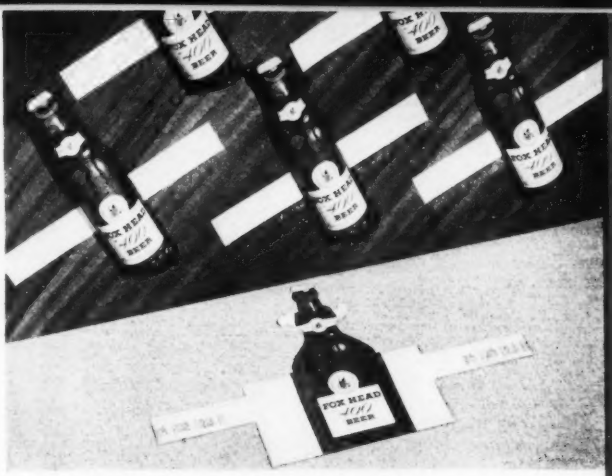


This life-sized floor display for Old Hickory Straight Bourbon Whisky featuring four cases of the product being wheeled by a clerk can be made up with either live merchandise or with full-sized lithographed case reproductions. For counter use, there is a similar 17-in.-high display. The smaller unit has a cutout on the cases for insertion of either a lithographed or actual Old Hickory bottle. Display produced by Elmson-Freeman Co., Inc., Long Island City, N. Y.



Grumette Laboratories takes advantage of the fact that its Clorons breath-deodorant chlorophyll tablets were featured in *Readers Digest* by stating this on its new combination shipper-display carton. The display carries out the burgundy and green colors of the individual roll packages. The display holds 12 of the foil-covered, paper-labeled rolls. Design, George Reiner, New York. Display carton, Acme Folding Box Co., New York.

Rubmaster Rubbing Alcohol, newest item in National Package Drug Co.'s Drugmaster Product line, is promoted in an easel-back counter card holding an actual bottle of the green-colored alcohol product. The green and white display complements the color of the alcohol. Display, Continental Lithographers, St. Louis. Bottle, & closure, Owens-Illinois Glass Co., Toledo. Label, A.M. Steigerwald Co., Chicago, using Midwest Foil Co.'s foil.

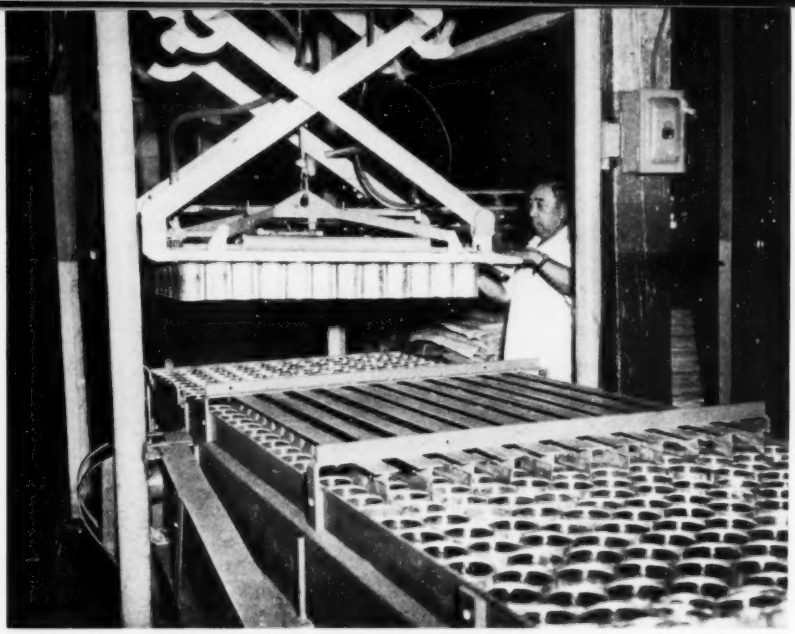


Realistic, actual-sized reproductions of the Fox Head "400" beer bottle, chilled and sparkling with moisture, are designed for mounting on back-bars, walls, windows, panels and posts. Printed in full color on paperboard, the three-dimensional effect closely approximates the appearance of a real mounted bottle. Instructions for folding the display are printed on the back. To mount, merely tear off the tape and press the adhesive-coated bands of the display to the mounting surface. Display, Milprint, Inc., Milwaukee.

By packaging their nylon panties and displaying them in attention-arresting counter cartons for self-service merchandising, Nature Girl Undies, Inc., has expanded its volume and increased its outlets. Individual packages consist of a lithographed facing sheet, with the upper left-hand corner nicked to allow customer inspection. Backing board, product and printed sheet are overwrapped in cellophane. Display designed by Michael Zaphier Associates, New York, and supplied by Brooks & Porter, Inc., New York. Individual packages, Milprint, Inc., Milwaukee.

A counter and window display for John B. Stetson Hats, featuring a gift certificate and miniature package, proved effective during the Christmas season. The unit is constructed in different dimensional planes, making the gift-certificate box appear to be contained in a golden Christmas-tree ball from which it projects forward. The gift certificate also appears to project forward. The display uses five different die-cut materials, five printed colors and tip-ons. Display, William Mellish Harris Associates, New York.

Chesterfield's new decal is an eye-stopper with the words "Buy" and "Here" in separate red and blue panels tying in with a striking full-color illustration of a man's hand offering a package of Chesterfield cigarettes. Designed to spur impulse buying at point of purchase, the decals are suitable for doors, windows or showcases. They are low in cost, easy to apply and weather resistant. Decal display, The Meyercord Co., Chicago.



LIFTED BY SUCTION, newly filled cans are palletized at rates up to 300 a minute. The metal guides, foreground, channel filled cans to load patterns determined by can and pallet size.

Can-handling automatons

NEW SUCTION-CUP UNITS LIFT 'BRIGHT' CANS ON AND OFF STORAGE PALLETS, EFFECTING IMPORTANT COST CUTS AT HAWAIIAN CANNERIES

In the canning industry, many of the foods processed and packed under vacuum must be held in storage for a cooling period. This means removal from highly mechanized lines and customarily requires considerable manual handling. The Hawaiian Canneries, Inc., Kauai, Hawaii, by installing a mechanized system, now palletizes "bright" (unlabeled) cans at speeds up to 300 a minute and, after storage, transfers them back onto a conveyor line at speeds up to 1,000 a minute for labeling and packing.

Hawaiian Canneries is the first to demonstrate the possibilities of this type of equipment, which is believed to have important cost-cutting possibilities for the entire canning industry.

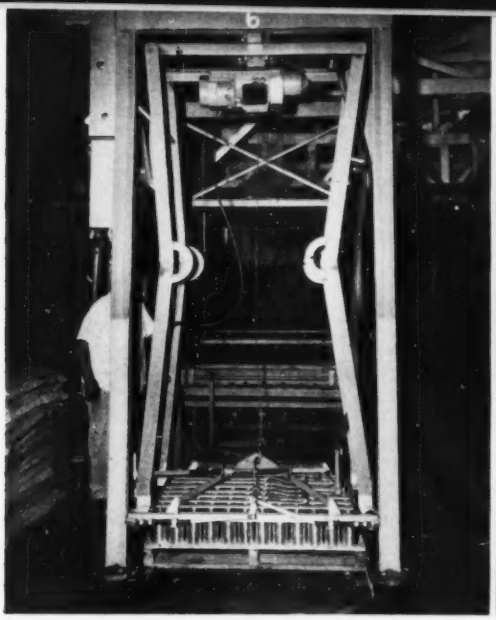
The system employs two basic units, one for palletizing the cans after processing, for storage or transport, the other for de-palletizing the cans when they are brought from the warehouse for labeling and casing. Both units employ pneumatic suction heads with rubber cups that directly contact the can tops and lift the cans onto and off the pallets.

The palletizer receives the cans as they leave the processing line and arranges them into a load pattern determined by the size of the can and the pallet. A suction head equipped with individual nozzles for each can moves over the load, picks it up, swings laterally over the pallet and deposits the full tier. Tier after tier is loaded in this fashion.

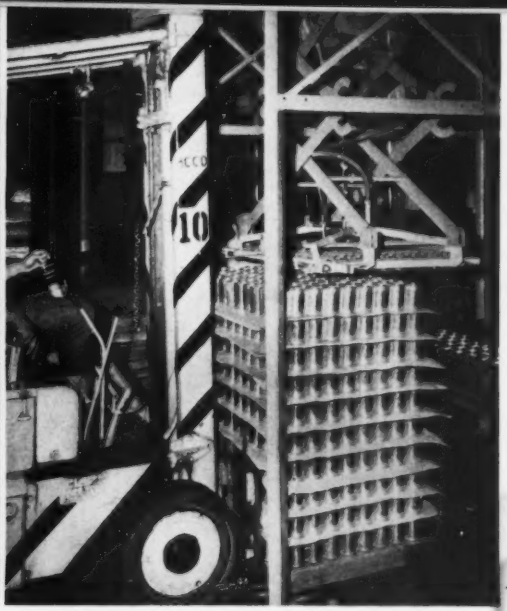
A sheet of kraft paper is placed between tiers and this insert binds the tiers and helps prevent spoilage by absorbing fluids from any "leakers" that may be present. The kraft sheet also reveals the location of "leakers" during de-palletizing and thus permits the detection of faulty cans and their removal from the line.

Can sizes handled by Hawaiian Canneries range from No. 1 flat cans, 20 tiers to the pallet and 108 cans per tier, to No. 10 cans stored six tiers to a pallet, 35 cans per tier. All cans through the range of No. 2, 2½, 3, 211, 8-oz. and No. 10 are handled. Various-sized pallets can be used, but at Hawaiian Canneries pallets are standardized for efficient use of floor area.

The de-palletizer goes into action when the cans are brought from the warehouse for labeling. The suction head is lowered over the pallet load



A TIER AT A TIME is deposited on pallet. Suction head is lowered or raised by cable mechanism, load is released gently in position on pallet by cutting off suction.

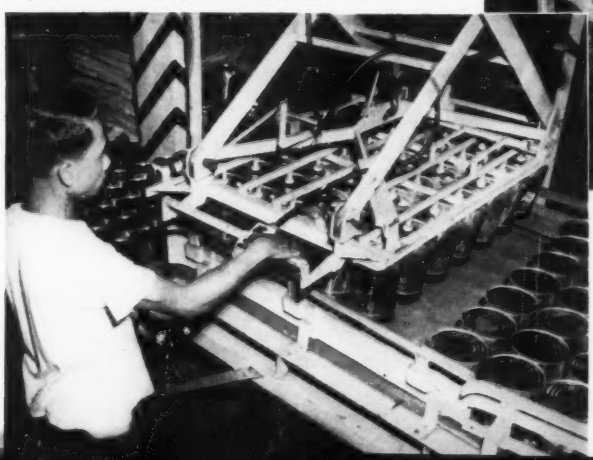


KRAFT PAPER INSERTS bind tiers together and absorb fluids that seep from "leakers." Hawaiian loads 20 tiers of No. 1 flat cans to a pallet, 108 cans to a tier.

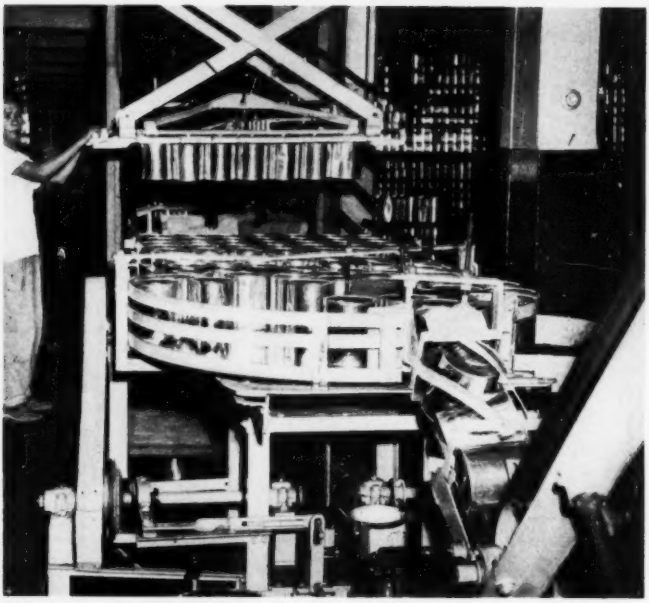
and the cans are transferred a tier at a time to a moving belt conveyor. The cans then discharge onto a 48-in. disk converger, from which they emerge in single file ready for labeling and packing.

This system offers many advantages. There has been considerable reduction in handling costs. Greater efficiency in the use of warehouse space has made it possible to avoid the necessity of additional building in spite of increased production. Maintenance costs of the equipment are said

DE-PALLETIZING. Cans returned from storage to labeling lines are handled at rates up to 1,000 a minute by a similar suction-head machine. Kraft separators show any leakage stains and thus permit easy detection of faulty cans, which can be removed.



SMOOTH RETURN to labeling line is completed as a tier of cans is transferred onto a moving conveyor belt. Note individual suction cups which provide the vertical lift and tight grip that prevent can damage.



SINGLE-FILE DELIVERY. A 48-in. disk-type converger feeds cans to the high-speed labeling line. The cans are then carried to case packing.

to be negligible. Operator skills required are at a minimum. Flexibility of operations is assured by the ease and speed of handling and the low change-over time. However, the greatest direct advantage is the reduction in manpower required to do the job—a saving that is estimated to average the equivalent in work of 15 men per line.

The old way

To appreciate fully the saving in manpower, it is necessary only to look at the operation as it is customarily handled on the mainland, for the canning trade, with all its high degree of mechanization in processing and packaging, generally employs manual handling techniques in the bright-can holding operation.

Usually the techniques vary, depending upon whether the canner produces exclusively under his own brand names or functions as a "contract" canner. If the canner is a contract packer, he cans foods under brand names other than his own and he may also package a food under several different brand names, according to grade.

A typical handling operation of bright cans by a plant that packages only its own brand follows these steps: First, the cans are put in small trays, measuring 14 by 18 in. Second, the trays are stacked 5 ft. high on pallets. Third, the pallet loads are trucked directly to the warehouse. Fourth, the pallet loads are stacked, one pallet high, for the 24-hr. cooling period. Fifth, after cooling, the pallets of trayed cans are brought to the labeling line. The individual small trays are inverted and cans are fed to the labeling line.

The contract packer uses a different method. As the cans leave the cooker, two men called "trayers" take the cans off the line by hand and put them into 2-ft.-sq. trays. These trays are stacked as high as the trucking operation will permit; that is, up to the point where they won't topple over. Each truck load is then deposited in a cooling area. After cooling, the loads are trucked to the storage area, where they are held until shipped against orders.

In storing, the cans are removed from the trays and individually hand stacked on 4-ft.-long racks in stacks 4 ft. wide. The stacking crews work in pairs. As the stack grows too high for loading from floor level, one man mounts a catwalk and proceeds to stack from this height. The cans are fed to this "top hand" by his teammate. The man at the top cannot fill in all the spaces on the stack and either he or his helper must then fill them in by mounting a ladder.

De-stacking in the contract plant is just the reverse of this procedure. The cans are retrayed by hand and conveyed to the packing line. Here, two men invert the trays and dump the cans onto a converger.

Comparison of either of these two manual stacking methods with the palletizing system worked out by Hawaiian Canneries, of course, shows overwhelming advantages in favor of the pallet method.

Successful operation

Hawaiian's development work on its pallet system began four years ago and the system has been successfully operated for more than two years. At present, the company uses 13 palletizers to place cans on pallets as they come from the process lines. Four de-palletizers are used to feed the high-speed labeling and case-packing lines.

Under agreements recently completed, a leading manufacturer of packaging machinery in this country has been licensed to build for general use the system and type of equipment developed by Hawaiian. The method and equipment are in accordance with patent applications made by the developers of the successful operating sequence of machines.

The equipment, reportedly, has potential use in these operations:

1. Transferring any product or container stored in unpackaged state from processing line to pallet.

2. Bulk transfer of loads thus palletized from one location to another—from one height to another or laterally within a reasonable distance, where other types of conveyors do not appear practical.

3. Packaging fragile products or containers into shipping cases at speeds higher than hand operation—where the object lends itself to accumulation in a load pattern and can be handled by the suction-cup method.

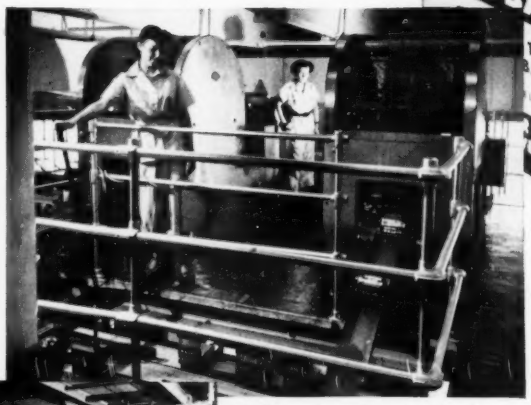
CREDITS: *Palletizing and de-palletizing equipment and convergers as illustrated designed and built by Hawaiian Canneries' Mechanical Dept.; now licensed for manufacture by Standard-Knapp, Div. of Emhart Mfg. Co., Portland, Conn.*

For package printing that's outstanding, see Burt. Cartons made for Helene Curtis Industries, Inc., Chicago.

Burt makes cartons by the millions
You'll be proud of yours

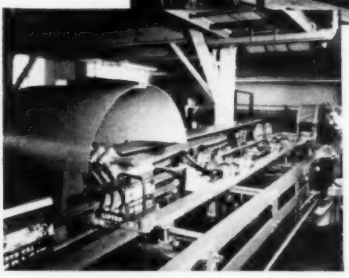
F. N. Burt Company Inc. • Manufacturers of Small Set-up Boxes, Folding Cartons and Transparent Containers • 500-540 Seneca Street, Buffalo 4, New York • Offices in Principal Cities Or Write Direct • Canadian Division: Dominion Paper Box Co. Ltd., 469-483 King St. W., Toronto, Canada

How to Save Money on CARTONING



Palmer Carton Forming Machines in Lipton's Hoboken, N. J. plant

The completely formed cartons are conveyed from these machines to the packing stations where girls fill them with tea bags. Cartons are then placed on a conveyor which carries them to the Palmer Carton Closing Machine. From there they are conveyed to our Model FA machines which wrap them in cellophane.



Palmer Carton Closing Machine

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Write for literature

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Efficiently operated plants, such as Lipton's, show the way to savings on your cartoning costs . . . They use our Palmer Carton Forming Machines and make their cartons from inexpensive die-cut blanks . . . Far less costly than buying factory processed cartons. And you have a very flexible means of meeting your production requirements, since you can make your cartons as you need them from easily-stored blanks that take up little space.

The Palmer Carton Former is adaptable to a great many styles of cartons. It is easily adjustable for various sizes. Has a speed of up to 102 cartons per minute. Operator merely keeps magazine filled with blanks.

We'll be glad to show you how the Palmer can be adapted to your requirements.

PACKAGE MACHINERY COMPANY • *Carton Division* • Springfield, Massachusetts

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

PACKAGE MACHINERY COMPANY

Evaluation of waxed-paper seals*

NEW METHOD EMPLOYING AN INSTRUMENT BASED ON SENSITIVE BUOYANCY PRINCIPLE CORRELATES WITH COMMERCIAL SEALING PROCEDURES.

By John W. Padgett†, E. A. Yermakoff** and S. T. Van Esselstyn†

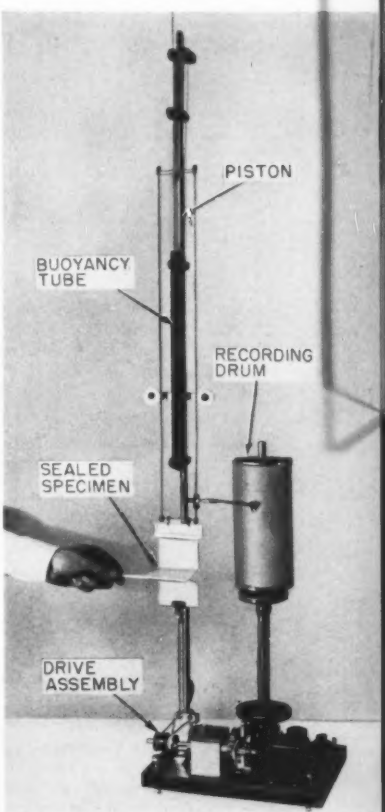
The heat-sealing and adhesive properties of petroleum waxes have been recognized by the paper-converting industry as important qualities contributing to the proper performance of many types of wax-coated and laminated papers. In order to control this important quality at the required performance level, a reliable test method is required by both the supplier and consumer of petroleum waxes.

In the past, many have depended merely on a qualitative test of one type or another. These tests are characterized by sealing with a hot iron and then peeling apart by hand to obtain an estimation of sealing qualities. Others have developed quantitative methods based on a wide variety of techniques. In one of the earlier methods, the Elmendorf tear tester was modified to determine sealing strength by indicating the energy absorbed in separating two sealed strips of specified area (1).[1] Paralleling this were methods based on peeling a sealed specimen at a constant rate and measuring the required force by using a simple Jolly Spring arrangement or gravity weighing system such as the basis-weight scales employed by the paper industry. Others used similar apparatus but, instead of the Jolly Spring, obtained an indication of the force by measuring the vacuum or pressure developed in a piston and cylinder arrangement (2).

TAPPI (3) has suggested a test method for adhesiveness of seals and closures. However, this method is not sensitive enough for paraffin wax, since it was intended for much stronger types of adhesives.

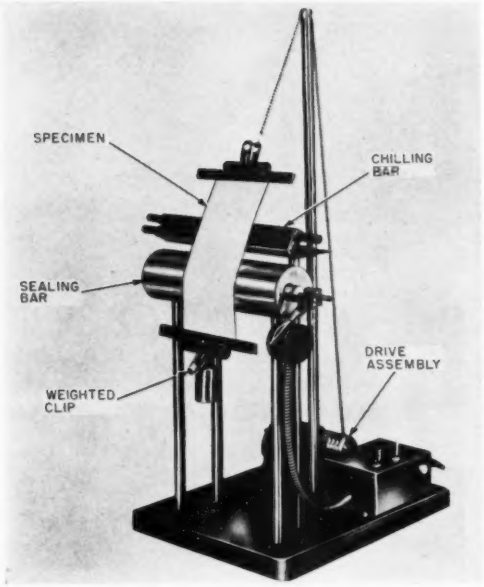
Likewise, Kinsel and Schindler (4) have described a method for determining the adhesion properties of microcrystalline wax. But, due to the method of sealing test specimens and high load range of the seal tester, it is not satisfactory for paraffin waxes. Their sealed specimens are prepared by passing wax-coated cellophane through heated rollers.

MacLaren (5) describes a modification of the method developed by Des Autels (Kalamazoo Vegetable Parchment Co.) for determining sealing strength of both paraffin and micro-

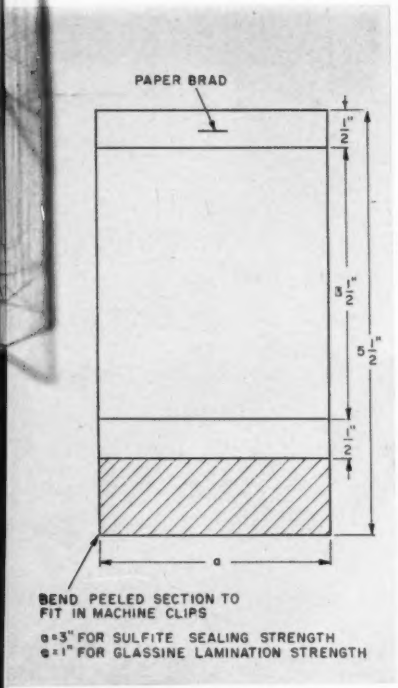


1. SEAL-STRENGTH tester, developed by Moore & Munger and Palo Laboratory Supplies, Inc., peels test specimens at a 180-deg. angle and at a constant rate of jaw separation, and records a permanent graphical analysis. The Lucite piston works in a mercury-filled steel buoyancy tube.

* Based on a paper, "New Seal-Strength Test for Coated Papers," delivered by Padgett and Yermakoff before the 13th Annual Forum of The Packaging Institute, Hotel Commodore, New York, Oct. 23, 1951.
† Moore & Munger, New York.
** Central Research Laboratories, General Foods Corp., Hoboken, N. J.
[1] Numbers in parentheses identify "References" appended.



2. SEALING instrument, which was especially devised for preparation of the test specimens.



3. STRIP FOR TESTING is prepared according to these specifications. The strip is cut from a larger sealed specimen after it has been aged for 24 hours.

crystalline waxes. This instrument utilizes a vacuum weighing system and has been used successfully in several laboratories. Test specimens are prepared by heat sealing on a hotplate at 200 deg. F. for five seconds and then cooling to 70 deg. F.

Another method for determining the sealing strength of paraffin wax, reported by Funk, et al.(6), uses a spring weighing system and records the force graphically on polar coordinates. Test specimens are hand coated on one side only and are given an oven treatment at 200 deg. F. to permit drainage of excess wax. The coated sheets are sealed by sandwiching between glassine sheets and two glass plates preheated to 195 to 205 deg. F. A 14-lb. weight is applied to the top glass plate to give a constant sealing pressure. The sealed specimens are separated at the rate of 21 in. per minute.

Whereas most of these methods were based on peeling the sealed specimen at 180 deg., the Socony-Vacuum Oil Co. has developed a technique of determining sealing strength by peeling at small angles (7). This method is being used by several laboratories and is reported to give satisfactory results as long as the angle of separation is maintained constant when making comparisons. When using this test on laminated glassine, it has been shown that the calculated horizontal component of force acting at the point of separation increases as the angle of delamination decreases.

In developing the Moore & Munger method described later, it was found necessary to record the instantaneous force graphically because of the inherent irregularities in sealed specimens, particularly those of commercially waxed opaque sulfite. Better reproducibility was obtained when using an integrated average rather than a sight average.

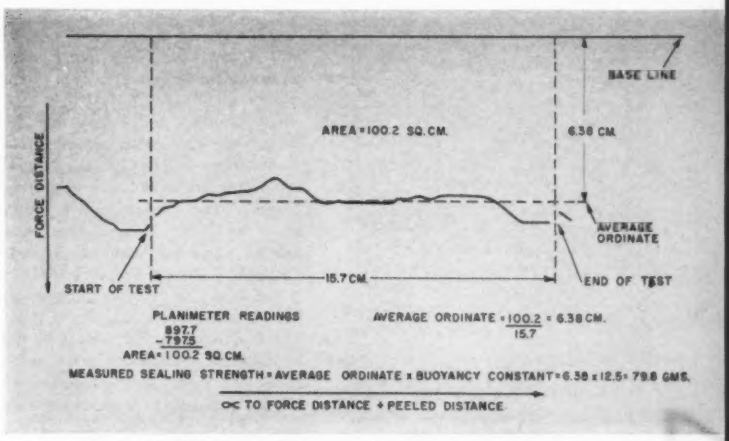
The original seal tester developed by Moore & Munger laboratories in cooperation with Palo Laboratory Supplies, Inc., employed a spring weighing system instead of the buoyancy tube and had an infinite number of speed ranges. This machine was used from 1940 until 1949 with gratifying results. During this period, it was demonstrated that the method was extremely sensitive to the small changes in sealing strength encountered in paraffin wax coatings. Reproducibility and precision of the test method were also shown to be quite adequate. Later, when General Foods and other laboratories became interested in the method, the instrument was redesigned to give a more compact and operable production model.

The method of sealing test specimens as described in this paper was developed primarily to eliminate the air spaces which form between the sealed sheets, a major difficulty encountered in many methods. While this method does not completely eliminate this trouble in all cases, it gives the best results of all the various methods investigated. Except in a few cases when sealing test specimens at temperatures considerably above 210 deg. F. and when preparing glassine laminations using certain mixtures of microcrystalline wax and resins, the method gives reproducible test specimens with a negligible amount of unsealed area between the sheets. Even in the latter case, satisfactory seals can be obtained by only a slight modification in technique.

In the original method, a laboratory Mayer-type coating machine was employed for making the seal. Later, using the principle developed on this machine, a compact production model was designed in cooperation with General Foods and Palo Laboratory Supplies, Inc., and, except where indicated, was used for the preparation of all seals.

Although it would be desirable to

have a sealing-strength method which would apply equally well to both paraffin and microcrystalline waxes, certain modifications are necessary to determine the laminating strength of microcrystalline wax. These modifications are required, first, because of the much higher adhesive strength of microcrystalline wax and, secondly, because of the basic differences in both the sealing qualities required and the method of producing a laminated sheet, particularly of the glassine type. In the following description, the basic procedure applies to the sealing strength of paraffin wax on opaque sulfite. A suitable method for determining the laminating strength of microcrystalline wax, by making minor modifications in the basic procedure for paraffin wax, also is described.


BASE LINE
AREA = 100.2 SQ. CM.
6.38 CM.
FORCE DISTANCE
AVERAGE ORDINATE
START OF TEST
15.7 CM.
END OF TEST
PLANIMETER READINGS
897.7
-797.5
AREA = 100.2 SQ. CM.
AVERAGE ORDINATE = 100.2 / 15.7 = 6.38 CM.
MEASURED SEALING STRENGTH = AVERAGE ORDINATE x BUOYANCY CONSTANT = 6.38 x 12.5 = 79.8 GMS.
∝ TO FORCE DISTANCE + PEELED DISTANCE

4. ACTUAL CURVE taken from sealing-strength tester, showing results with 32-melting-point wax on opaque sulfite, specimen 4 in. wide.

Method

Wax is applied to a standard sulfite paper in a controlled amount. Two sheets are sealed together and aged under prescribed temperature and humidity conditions for 24 hrs. Test specimens are then prepared and peeled apart at a constant predetermined rate on a sealing-strength tester. The graphical plot thus obtained is then evaluated and expressed as the sealing strength in grams per centimeter width of sealed specimen. Apparatus includes:

1. *Coating machine.* The coater should be equipped with temperature controls for the wax bath and chill rolls, and should be capable of applying 14±¼ lbs. of wax per ream with a surface weight of approximately 7 to 8 lbs. equally distributed between the two sides. The surface wax is approximated by scraping a previously weighed sample and then reweighing. A 6-in. Mayer Laboratory Coating Machine has been used in the Moore & Munger laboratories and, except where indicated, was used in this study. For screening purposes, an experimental hand-coating device, developed by the Socony-Vacuum Oil Co., can be used wherein a sheet 2½ by 10 in. is pulled through a wax bath and under a 0.004-in. scraping bar when coating sulfite and a 0.003-in. bar for glassine. If the sheets are sealed back to front, the weight of wax at the point of seal has been found to be fairly constant. Only 10 gms. of wax are needed and samples can be prepared quite rapidly. However, reproducibility is not so good as machine-coated specimens. Also, a control should be evaluated when comparing samples with standard machine methods of waxing.

2. *Basis-weight paper balance.*

3. *Standard sulphite paper.* This should be supplied in 5½-in.-width rolls weighing 22 lbs. per ream (24 by 36 in., 500 count) and for control purposes should be conditioned at 73 deg. F. and 45-55% R.H. for a minimum of two weeks before waxing.

4. *Photographic-type paper cutter.* This is required for cutting waxed stock into 8-in. strips for sealing and also for accurately cutting test specimens.

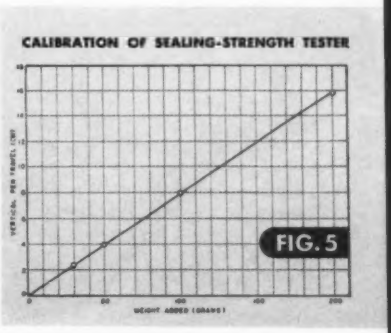
5. *Moore & Munger–Palo sealer* (Fig. 2). The sheets are sealed at a rate of 25 in. per minute by passing over a heated bar at a fixed angle and are weighted with 200 gms. to apply a controlled amount of pressure. The sealer is equipped with a thermoregulator and a thermometer well for accurate temperature control. Although the standard procedure calls for air cooling the specimens, a chilling attachment is provided for preparing seals requiring different cooling rates.

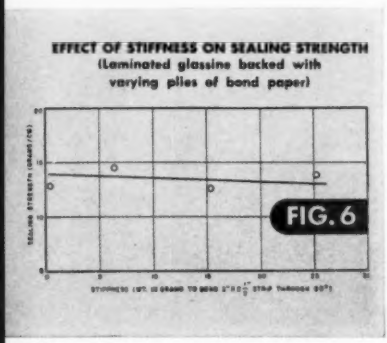
6. *Moore & Munger–Palo sealing-strength tester* (Fig. 1). This instrument peels the test specimens at an angle of 180 deg. and at a constant rate of jaw separation. At the same time, a recording device plots a permanent graphical analysis of the sealing strength. The machine primarily consists of: (1) a mercury buoyancy tube and yoke assembly, (2) a recording drum and (3) a drive assembly.

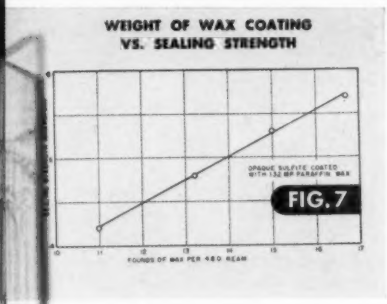
The mercury buoyancy tube assembly consists of a mercury-filled steel cylinder which is clamped to the center post in a vertical position. A yoke, consisting of two alloy rods, is attached to a Lucite piston suspended in the mercury. A clamp fastened to the test specimen attaches to the alloy rods which are guided by two roller bearings. The recording pen is pivoted from the inner alloy rod.

The recording drum is rotated by the drive assembly and can be removed to change papers. The drive assembly consists of a constant-speed reversible electric motor and a gear box with extra gears that are readily interchangeable to give a range of separation rates. However, a rate of 5 in. per minute of jaw separation is used as a standard for wax-coated sulfite and 3.5 in. per minute for laminated glassine.

When the seal tester is in operation, the motor simultaneously rotates the recording drum and peels the sealed test specimen. The Lucite piston is submersed in the mercury column by







the downward movement of the test strip. The restoring force of the mercury pressure on the piston acts to separate the test specimen and a plot of this force is obtained on the recording drum.

7. *Recording paper.* 8½ by 13 in. onion skin, Sphinx brand.

Procedure

Coating the paper. The previously aged sulfite paper is waxed on the coating machine with conditions regulated to apply a total of 14 ± ¼ lbs. per ream and a surface weight of approximately 7 to 8 lbs. equally distributed between the two sides. The paper is then cut into strips 8 in. long.

Sealing the test specimens. The sealing temperature is adjusted to 210 ± 2.5 deg. F. by means of the thermoregulator. The top clip is first lowered until it is just below the sealing bar, then two wax sheets are placed congruently back to front in the top clip. The 200-gm. weighted clip is attached to the outer test specimen and the motor is started. Precaution should be taken to prevent the sheets from swaying during the sealing operation. As the weighted clip just begins to pass over the heated bar, the motor is turned off and the specimen allowed to air cool. After approximately 1 min., the specimen is removed and the bar wiped clean, ready for the next two waxed sheets. Three specimens are prepared for each determination.

Conditioning and cutting the test specimens. The sealed specimens are suspended so all surfaces are exposed to an atmosphere maintained at 73 ± 1 deg. F. and 45–55% relative humidity. After aging 24 hrs. under these conditions, the specimens are prepared for peeling. A strip 3 in. wide (Fig. 3) is cut from the center of the sealed portion along the width of the sheet. The length of the test strip now will be the same as the width of the coated sheet, i.e., 5½ in., and will be perpendicular to the machine direction of the paper. Light pencil lines are drawn ½ in., 4 in. and 4½ in. from one end of the strip. A paper brad is placed in the ½-in. section and the other end is peeled to the first line so the test strip may be fastened to the clips of the tester.

Operation of the sealing-strength tester. The vertical alignment of the sealing-strength tester is checked by means of the attached plumb bob. It is important that the yoke assembly also be checked to make sure that the ball-bearing pulleys rotate freely. If the pulleys are stiff, they should be cleaned with carbon tetrachloride and re-oiled with an extra light-weight grade of machine oil.

One sheet of the test specimen is placed in the top clamp, which is suspended from the hooks of the yoke assembly. After the pen has been swung into contact with the recording chart, the main support rod of the buoyancy tube assembly is tapped lightly with a pencil three or four times to compensate for any friction that may exist in the weighing or recording system. The base line is recorded on the chart by pulling on the drum cord. A spring-loaded mechanism will return the drum to its original position.

The bottom clamp is now attached to the specimen and the motor started. The unpeeled section of the test strip must be manually supported in a horizontal position throughout the test so it is perpendicular to the applied force.

As the test strip peels and passes the first pencil line, the pen is momentarily removed from contact with the recording paper, thus indicating on the chart the start of test. This also is done after the sheet is peeled and the second pencil line is reached to indicate the end of test. Upon completion of the test, the pen is removed from the chart and the motor reversed. The three test specimens may be recorded on the same chart for routine analysis, but for precision work a new chart should be used for each specimen.

Calculations. Due to various irregularities in the test strip the plotted curve may be an erratic line (Fig. 4). This is best interpreted by use of a planimeter to obtain the area under the base line between the marks indicating the start and end of the test. The area is divided by the abscissa (distance between start and finish of test) to obtain the average ordinate. This ordinate distance multiplied by the buoyancy constant for the machine gives the average sealing strength for the test strip. To express the force in grams per centimeter width of seal, divide the result by 7.62.

Laminating strength

The procedure for determining the laminating strength of a microcrystalline wax follows that of the above sealing-strength method with the following exceptions:

A commercial glassine sheet 5½ in. wide weighing 24 lbs. per ream (24 by 36 in., 500 count) is used as the standard for laminating-strength determinations. The paper is waxed 7 lbs. per ream on one side at 210 deg. F. Test specimens are sealed in the same manner, except that the outer sheet is unwaxed glassine. The unwaxed side of the coated sheet is placed in contact with the heated bar. A 1-in.-wide strip is generally used as a standard for the laminating test. In order to express the force in grams per centimeter width of seal, divide by 2.54. The operation of the tester is the same as for the previously described sealing-strength determination except that the rate of jaw separation is 3.5 in. per min.

Calibration of tester

The sealing-strength tester is calibrated by measuring the vertical distance of pen travel on the recording drum when a series of known weights is added to the shelf of the yoke assembly. The weights selected should represent the entire operating range of the instrument. The initial or zero position is determined by allowing the Lucite piston, with no weights added, to submerse in the mercury column until it comes to rest. Any static friction that may exist in the pulley system or in the pen-to-paper contact is overcome by gently tapping the center

post with a pencil or any other suitable instrument. This tapping procedure also should be done when the weights are added to the yoke assembly.

Fig. 5 is a plot of the pen travel in cm. against weight in gms. The calibration or buoyancy constant is equal to the slope of this curve in gms./cm. The constant for this particular machine is 12.5 gms./cm. A day-to-day check over a period of a few months shows the constant to range from 12.45 to 12.56 gms./cm.

The sealing-strength tester has an operating range of 0 to 250 gms. and an average calibration constant of approximately 12.5 gms. per centimeter movement of the piston.

When testing other types of heat-sealing coatings, a machine with a higher range may be desired. A formula has been derived so that instruments with larger or smaller ranges may be designed by simply adjusting the ratio of the diameters of the piston and buoyancy tube.

Precision of method

Table I represents typical data illustrating the reproducibility of the complete method for a low-sealing paraffin wax on sulfite waxing stock. Three different sheets were sealed and tested independently by two laboratories using different operators and apparatus.

Table II shows a series of independent tests on a commercially laminated glassine sheet. Tests were made on two different dates by each of the two laboratories. In this case the coating and sealing conditions are probably more uniform than laboratory-prepared samples and therefore may account for the somewhat better reproducibility. When using careful technique, the results of a large number of similar tests in these laboratories show that duplicate determinations within 1 gm. can be made by the same operator on the same machine and that a test can be reproduced in different laboratories within 2 gms.

During the course of the early experimental work, it became apparent that many variables affected sealing strength to a marked degree and therefore should be controlled if satisfactory reproducibility was to be achieved. Aside from differences in coating composition, it was found that such variables as temperature, humidity, aging, rate of peeling, type of paper, etc., all had varying influences on sealing strength. Some of the more significant variables are discussed below.

TABLE I—PRECISION OF TEST METHOD—PARAFFIN-COATED SULFITE

Sealing strength—gms. /3-in. width of seal

Test sheet number	*1*		*2*		*3*	
Laboratory	*A*	*B*	*A*	*B*	*A*	*B*
Test specimen number						
1	17.5	16.0	18.8	20.9	18.7	14.8
2	18.4	17.8	19.0	18.5	17.2	16.6
3	17.9	15.4	18.1	20.9	18.1	14.8
4	16.3	14.8	19.4	20.3	18.7	15.4
5	19.1	16.0	17.8	20.9	18.7	17.2
6	16.5	16.0	17.8	20.9	18.7	15.4
7	17.5	15.4	18.7	20.9	19.0	17.2
8	17.5	14.8	21.9	19.7	18.1	18.4
9	16.9	16.0	18.5	20.3	18.1	16.6
10	18.4	14.8	19.0	19.7	20.0	18.4
Average sealing strength (gms.)	17.6	15.7	18.9	20.3	18.5	16.5
Standard deviation (gms.)	0.8	0.9	1.1	0.8	0.7	1.3

Average standard deviation within laboratory (gms.)—0.9

TABLE II—PRECISION OF TEST METHOD—COMMERCIALLY LAMINATED GLASSINE

Seal strength—gms. /3-in. width of seal

	Laboratory "A"		*Laboratory "B"*	
Test specimen number	*Test #1*	*Test #2*	*Test #1*	*Test #2*
1	43.2	45.8	45.6	45.0
2	43.2	41.9	44.4	45.0
3	44.4	44.2	45.0	46.3
Average seal strength (gms.)	43.6	43.9	45.0	45.4
Standard deviation (gms.)	0.6	1.5	0.4	0.6

Average standard deviation within laboratory (gms.)—0.7
Standard deviation between laboratories (gms.)—0.8

Paper stock. It can be shown that opaque sulfite waxing stocks vary widely in their sealing qualities. Finish, furnish, porosity or density, moisture content, fibre orientation, fillers and sizings all probably contribute to these variations in sealing characteristics to a greater or lesser degree. Whether the sheet is plain, filled or coated also undoubtedly gives rise to variations.

Table III is a good illustration of the differences in sealing qualities between six different commercial grades of opaque sulfite waxing stock. While some variation is to be expected, the degree is quite surprising. This particularly is true in the case of additives, where the sealing strength can vary twofold with variation in paper alone. It shows that sulfite paper can contribute as much to sealing strength as the wax coating itself, or possibly more. For this reason, when comparing the sealing strengths of various waxes or wax-modified coatings, it is extremely important to select carefully a standard paper of the proper type to be used in making all tests.

Table IV (a) gives further evidence on the variation in sealing qualities of opaque sulfite, particularly in regard to the effect of finish or surface condition of the sheet on sealing strength.

The wide variation in sealing strength due to the direction of peel relative to fibre orientation of a sulfite sheet is shown in Table IV (b). This difference probably can be explained by the much poorer anchorage of the wax film to the paper fibres when peeled in the machine direction.

Although there are no data available, it is reasonable to expect that variations in sealing qualities would be much less with glassine than with opaque sulfite. This is logical from the standpoint of the different bonding mechanisms involved in the two types of paper. Because of the high density of glassine, there is very little pene-

TABLE III—EFFECT OF DIFFERENT OPAQUE SULFITE WAXING STOCKS ON SEALING STRENGTH

Sealing strength (gms./cm.)

Type of sulfite paper	*(A) Low-test paraffin wax*	*(B) Low-test paraffin wax plus additive*	*Per cent increase B over A*	*(C) High-test paraffin wax*	*Per cent increase C over A*
1	3.6	10.6	195	5.2	44
2	3.1	4.6	48		
3	2.3	3.4	48		
4	3.4	6.3	85	3.5	3
5	3.9	4.6	18		
6	2.8	2.9	4		

tration of the wax coating or laminating material into the sheet. The strength of the bond, therefore, depends largely on adhesive forces. Sulfite, on the other hand, is relatively porous and the wax coating penetrates into the sheet, forming an interwoven mechanical bond with the paper fibres. While adhesion cannot be disregarded, the strength of this type of bond depends more on the cohesive strength of the wax coating. Even though the variation in glassine probably is considerably less, it still, nevertheless, is desirable to use a standard glassine paper for comparing the laminating qualities of microcrystalline waxes.

The effect of paper stiffness on measured sealing strength always has been a controversial subject. Although not supported by data, it has been reported (6) that it is a characteristic of sealing-strength tests of this type to measure paper stiffness as sealing strength.

To study this effect, glassine laminated with microcrystalline wax was backed on both sides with one, two and three plies of stiff bond paper. This procedure gave test specimens varying considerably in stiffness without altering any of the other variables which might affect the measured sealing strength.

The results of these tests, as shown in Fig. 6, certainly indicate that stiffness, at least in this case and probably within the range of most waxing stocks, has little effect, if any, on the measured sealing strength as determined by this method. No attempt is made to offer a plausible explanation, since the forces acting at the point of rupture are of a complex nature. However, for this particular series of tests, it must be conceded that any of the forces acting to overcome stiffness of the paper must also be acting to rupture the seal and, therefore, stiffness introduces little or no error from a comparative standpoint.

TABLE IV—EFFECT OF PAPER SURFACE AND DIRECTION OF PEEL ON SEALING STRENGTH

(a) Laboratory-coated opaque sulfite—132 melting-point paraffin

Surfaces sealed together	*Sealing strength gms./cm.*
Back to back	5.7
Front* to back	5.0
Front to front	4.1

(b) Laboratory-coated opaque sulfite—132 melting-point paraffin

Direction of peel	*Sealing strength gms./cm.*
Machine direction	3.3
Perpendicular to machine direction	5.0

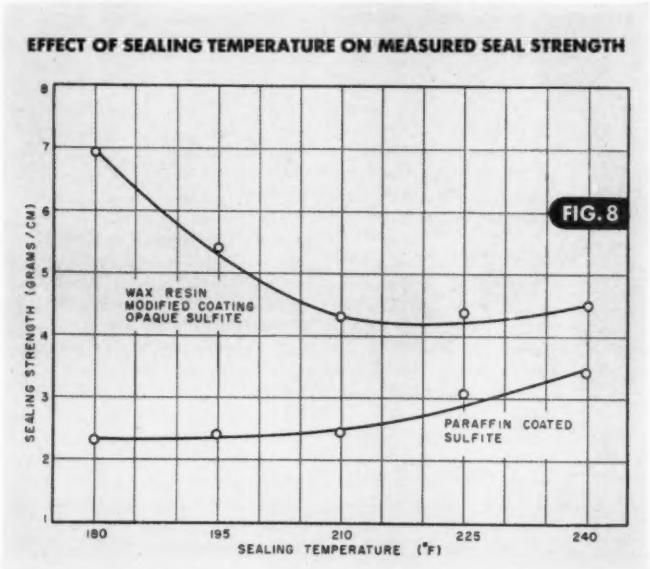
* Front—finished side of sheet.

In making these tests, the increase in radius of curvature due to increased paper stiffness could be readily observed. This particular study concerned laminated glassine only and may not necessarily prove to give the same results for paraffin-coated opaque sulfite.

The above applies to the effect of paper stiffness in making a sealing-strength determination and does not apply to the effect of paper softness or pliability on operational sealing qualities. It is a well known fact that soft, pliable papers perform better in wrapping and sealing machines. This is due mainly to the better folding qualities and lack of resiliency of a soft sheet.

Coating conditions. Variation in sealing strength due to coating conditions is related primarily to the amount of surface coating and degree of penetration of the wax into the paper. The latter effect, obviously, is much greater in the case of sulfite than glassine. Temperature of the coating bath, paper, speed, rate of chilling and size of the doctor wire all have an effect on the weight and/or degree of penetration.

Figure 7 illustrates this effect over the weight range of wax coating normally used in the manufacture of bread wrappers. Coating conditions were maintained the same, except that the total weight of wax was varied by using different sizes of Mayer, wire-



wrapped, doctor blades. Penetration of the wax into the paper was maintained constant.

Although in this example the relationship is indicated as being linear, it undoubtedly would show a curvature over a broader range of wax weight; sealing strength dropping off rapidly below approximately 9 lbs. total wax weight and probably approaching a constant sealing-strength value for higher wax weights.

Sealing conditions. In order to obtain the optimum seal from wax or wax-modified coatings, proper sealing conditions must be employed. For instance, the temperature, pressure, rate of chilling and speed of making the seal have varied effects on the strength of the resulting bond and in many cases are as important as quality of the wax coating itself. Likewise, in order to obtain satisfactory reproducibility, these variables must be controlled within specified limits.

The effect of chilling is usually to increase the sealing strength of paraffin on sulfite, as shown in Table V; the faster the chill, the higher the strength, up to some optimum point. However, some types of wax coatings show no change with rate of chilling. The effect varies considerably with the type of wax or wax-modified coating.

Speed of sealing mainly reflects its effect by causing a change in the temperature of sealing. Uniformity of seal also is affected by speed.

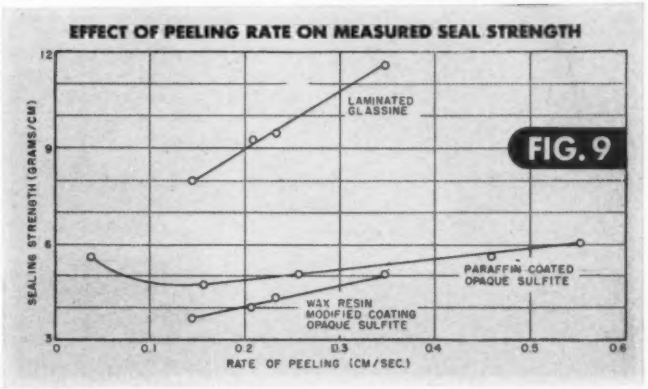
Of all the sealing variables affecting the sealing strength, temperature is probably the most important, with the possible exception of rate of chilling. For a given wax and base paper, an increase in sealing temperature may result in a sharp or gradual increase in sealing strength. On the other hand, a corresponding increase in sealing temperature for a different wax and base paper may result in a decrease in sealing strength.

The effect of sealing temperature on the sealing strength of two combinations of wax and base paper are illustrated in Fig. 8. In the lower curve, the paraffin-coated sulfite shows a gradual increase in sealing strength as the temperature increases from 180 to 240 deg. F. in 15-deg. increments. However, in the upper curve, we have a reverse effect. At 180 deg. F. sealing temperature, a commercially modified wax-coated opaque sulfite sheet has a relatively high sealing strength, only to have it fall off about 40% as the sealing temperature is increased 30 deg. F. Beyond 210 deg. F. the sealing strength more or less levels off before increasing at a very slow rate. It is important, therefore, to control sealing temperature within fairly close limits if reproducible results are to be obtained.

Also, here we have a good example of how it is possible to obtain a poor seal if the correct sealing temperature is not used. Thus, poor seals are not always the fault of the wax. The method and technique in forming the seals can contribute as much to the ultimate sealing strength as the wax.

Effect of peeling rate on measured sealing strength. The measured sealing strength of a wax coating or lamination is dependent on the rate at which the two plies are separated. This relationship is illustrated in Fig. 9. The laminated glassine is commercially prepared. The paraffin-coated sulfite is laboratory coated and laboratory sealed. The modified coating on sulfite is commercially coated and laboratory sealed.

With the exception of very low rates, as the peeling rate increases the measured sealing strength increases linearly, the rate depending on the material being tested. The indications are that the effect is more pronounced in stronger seals. Although not shown in the curves, it is logical to assume that this linear relationship will cease to exist beyond some critical peeling rate. It should be brought out that the paraffin-coated sulfite was peeled while in a "horizontal" position, which may account for the relatively low slope of the curve. Horizontal peeling is accompanied by a sag in the test specimen, the sag being more severe at low speeds.



Conditioning of test specimens. Storage conditions of the sealed test specimens can have a marked effect on sealing strength. Table VI shows the effect of relative humidity at constant temperature on the sealing strength of paraffin-coated opaque sulfite. In this case sealing strength increases slowly with an increase in humidity for values below 50%. Above this approximate value, sealing strength increases more rapidly with an increase in humidity. It also can be shown that laminated glassine behaves similarly.

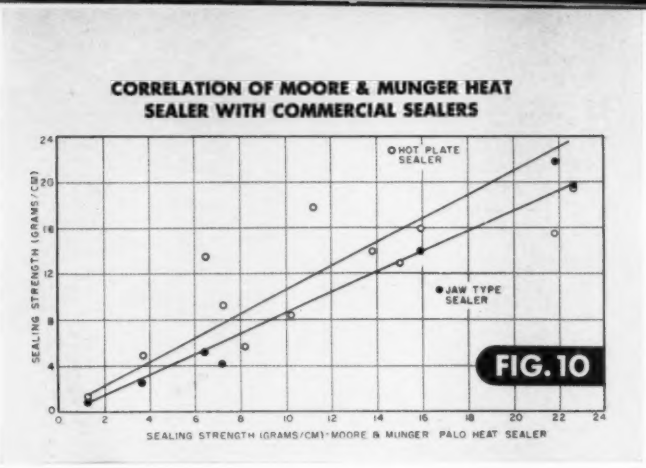
For a paraffin-coated opaque sulfite, Table VII shows that sealing strength increases within the first few hours of aging after sealing, approaching an equilibrium value after approximately 6 hrs. While certain types of wax-modified coatings show no change with age, it has been observed that many others will show a considerable decrease with age. Moisture content of the paper relative to humidity conditions undoubtedly has some bearing on this behavior. The time required to reach equilibrium varies with the type of paper and coating.

Although it is logical to expect marked changes in sealing strength with both temperature of aging and temperature of testing, no data are

TABLE V—RATE OF COOLING SEALED SPECIMENS

Paraffin wax on opaque sulfite. Aged 1 hr. at 70 deg. F. and 60% R. H.

Chilling-plate temperature, deg. F.	*Sealing strength gms./cm.*
Air cooled	4.3
90	5.4
73	5.6
50	6.0


CORRELATION OF MOORE & MUNGER HEAT SEALER WITH COMMERCIAL SEALERS
HOT PLATE SEALER
JAW TYPE SEALER
SEALING STRENGTH (GRAMS/CM)
SEALING STRENGTH (GRAMS/CM)-MOORE & MUNGER PALO HEAT SEALER
FIG. 10

available to illustrate the effect of this variable.

There are a number of commercial methods for sealing two waxed sheets. In one, a wrapped package is passed between two heated plates and then between two cooled plates with pressure applied during both the heating and cooling periods. In another method, two waxed sheets are sealed between two temperature- and pressure-controlled jaws.

In order that a correlation may be established between the Moore & Munger–Palo heat sealer and these two commercial methods of sealing, sulfite paper was machine and hand coated with a number of wax formulas and sealed by each of the three methods and the sealing strengths determined. The commercial hotplate method of sealing was simulated in the laboratory. The sealing temperature in each case was 210 deg. F. The results are plotted in Fig. 10.

Throughout the range of these formulas the seals made with the jaw-type sealer are almost directly comparable to the seals made with the Moore & Munger–Palo sealer. The slope of the curve (lower) is 0.87. Although the average of the results obtained with the hotplate-type sealer correlates fairly well with the other two sealers, the individual results are scattered over a wide range. This can probably be attributed to the different methods of cooling the seals. Whereas the seals made with the hotplate-type sealer are cooled on a cooling plate, the seals made with the other two sealers are only air cooled. The slope of the latter curve (upper) is 1.04.

The indications are that this laboratory method of sealing is capable of forming seals which are fairly comparable to commercial-type sealers.

TABLE VI—EFFECT OF HUMIDITY ON SEALING STRENGTH

Paraffin wax on opaque sulfite. Laboratory-prepared specimens. Aged 24 hrs. at 70 deg. F.

Relative humidity (per cent)	*Sealing strength gms./cm.*
Desiccated	4.6
50	5.1
95	10.5

TABLE VII—AGING OF SEALED SPECIMENS

Paraffin-coated opaque sulfite. Laboratory-coated and sealed. Paper conditioned at 73 deg. F. and 50% R.H. prior to coating and sealing

Time of aging after sealing (air cooled). 73 deg. F. and 50% R.H. (hrs.)	*Sealing strength (gms./cm.)*
15 min.	3.6
6	5.0
96	4.9

Tensile vs. sealing strength

Much has been published in the literature in regard to the correlation of tensile strength with sealing strength for fully refined paraffin waxes. Funk, et al. (6), have stated that, for waxes of similar melting point, the highest tensile will give the greatest sealing strength, but that such an assumption is not correct if waxes of different melting point and composition are being compared. Maclaren (5) shows a correlation between the mechanical strength and sealing properties of paraffin wax. Padgett and Killingsworth (8) have pointed out the dangers of using mechanical strength as a criterion for sealing strength. The data from this article are being reproduced again to emphasize this point and to show that a direct correlation cannot generally be assumed. Fig. 11 is a plot of sealing strength vs. tensile strength for various commercial 130/135 EMP paraffin waxes produced from different crude sources and in different refineries, as taken from the data of Padgett and Killingsworth. Although a general trend is indicated, the correlation is far from good, Wax A being a particularly glaring example of high tensile strength with low sealing strength. It should be pointed out that the poor correlation shown here is not necessarily due to poor precision of either the tensile or sealing test, since all results were checked with reproducibility better than 5%.

In Fig. 12 the same data are replotted, but in this case sealing strength has been plotted against oil content. Here it must be admitted that the correlation is quite good. It is particularly interesting to note that Wax A now falls well in line. This certainly indicates that oil content as determined by the ASTM method cannot be disregarded when attempting to correlate performance tests such as sealing strength with physical properties of paraffin wax.

The above discrepancies probably can be explained by differences in composition and the relation of composition to the effect of oil content on mechanical strength and sealing properties.

In further support of this view, a low-viscosity oil was added to a given low-oil-content, high-tensile and high-sealing paraffin wax. Fig. 13 shows an excellent correlation between oil content, tensile strength and sealing strength, but it is important to remember that the *composition was held constant with the exception of varying oil content.* This was not the case in Fig. 11, where both the composition and oil content varied considerably. Thus, a correlation between tensile strength and sealing strength of paraffin wax can only be assumed where the wax composition, except for oil content, is known to be constant. In these cases, both tensile and sealing strength decrease in approximately the same manner with an increase in oil content.

Also, whereas paraffin waxes show a decrease in sealing strength, certain types of microcrystalline wax made

from residual petrolatum show a very marked increase in laminating strength on glassine with an increase in oil content as shown in Fig. 12. This is merely further evidence of the varied effect of wax composition on the relation of oil content to sealing or laminating qualities. Petrolatum waxes have strong oil-retention properties and the oil acts as a plasticizer, whereas paraffin waxes tend to occlude oil at the crystalline interfaces, thereby weakening its mechanical structure.

Discussion

A disadvantage in this method of test is having to support the specimen manually in a horizontal position during the peeling operation. A small glass rod held to support the specimen will prevent any drag or sticking to the fingers and is a simple technique.

Any friction occurring in the piston bearings or in the guide pulleys will affect the sensitivity. It is essential that the machine be properly aligned and that the piston float freely in the mercury column. The pulleys must be carefully adjusted to guide, but not constrain, the yoke assembly. Also, the pulleys should rotate freely and be kept free from dirt and heavy oil.

The buoyancy constant should be determined under the same atmospheric conditions as the sealing-strength test because a change in density of the mercury will affect calibration. For small changes in temperature, it actually is necessary only to calibrate the instrument at one temperature and then simply apply a density correction factor for any other temperature.

The main advantage of the buoyancy principle over the Jolly Spring weighing system is in the dampening effect of the mercury column. This means that the graph obtained from an irregular seal will be easier to interpret, since the tendency to oscillate when using a spring will be suppressed.

Conclusions

A method for determining the sealing strength of waxed papers has been developed which can be shown to give adequate reproducibility and fair correlation with commercial practice. Precision probably could be improved further, but it is doubtful whether it is required for most sealing-strength determinations.

Provided the weighing system is of the proper sensitivity, satisfactory reproducibility should be obtained if the angle and rate of peel, paper quality, atmospheric aging and testing conditions, and variables affecting the method of sample preparation are controlled within prescribed limits.

It has been shown that the method is suitable both for quality control and for developing waxed papers of improved sealing qualities.

Acknowledgments

The authors gratefully acknowledge the assistance of Mr. N. J. Trabulsi, General Foods Corp., Central Research Laboratory, in developing the test method, and the contributions of Mr. H. Talboys, Palo Laboratory Supplies, Inc., in designing and producing the test apparatus.

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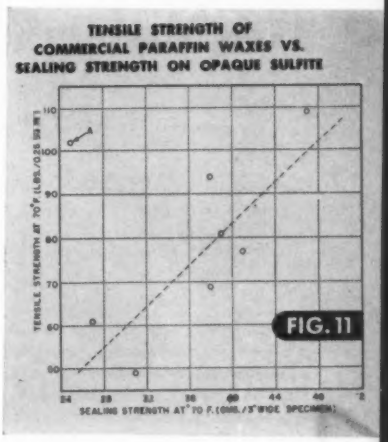
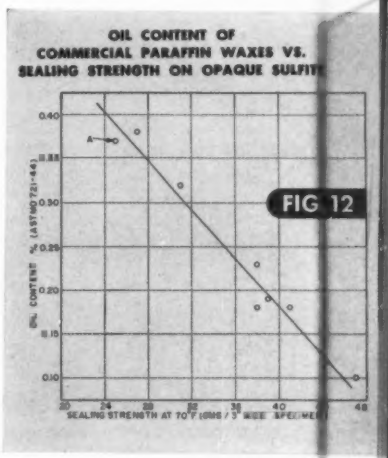
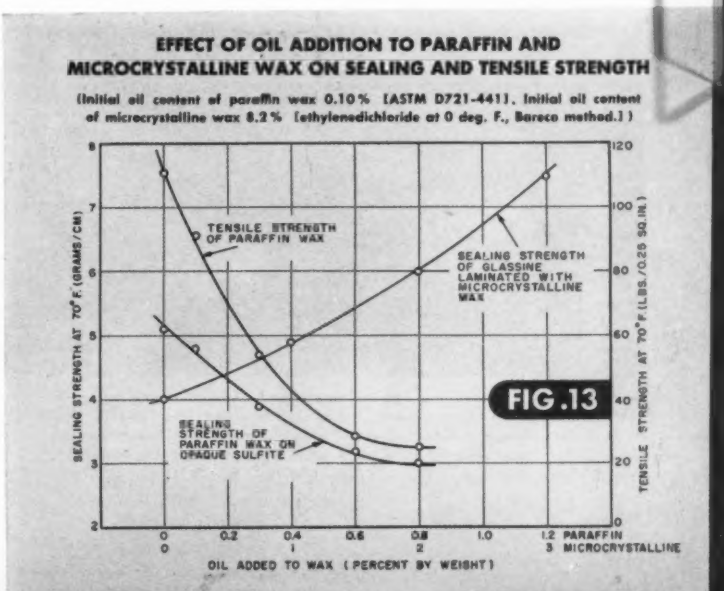





EFFECT OF OIL ADDITION TO PARAFFIN AND MICROCRYSTALLINE WAX ON SEALING AND TENSILE STRENGTH
(Initial oil content of paraffin wax 0.10% [ASTM D721-44T]. Initial oil content of microcrystalline wax 8.2% [ethylenedichloride at 0 deg. F., Bareco method.])
TENSILE STRENGTH OF PARAFFIN WAX
SEALING STRENGTH OF GLASSINE LAMINATED WITH MICROCRYSTALLINE WAX
SEALING STRENGTH OF PARAFFIN WAX ON OPAQUE SULFITE
FIG.13
OIL ADDED TO WAX (PERCENT BY WEIGHT)
1.2 PARAFFIN
3 MICROCRYSTALLINE

Rodent-resistant vinyl films*

NEW STUDIES INDICATE THAT REPELLENT CHEMICALS MAY BE ADDED IN FILM CALENDER TO PRODUCE PROMISING PACKAGING BARRIERS.

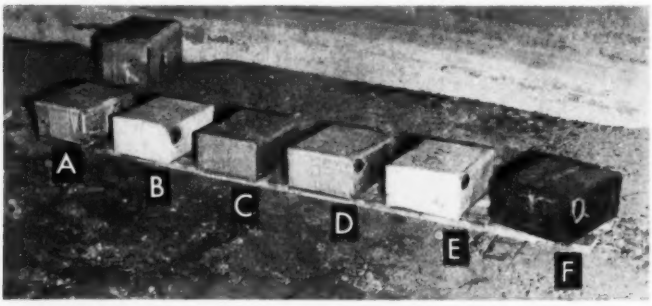
By Jack F. Welch† and E. W. Duggan**

As a further contribution to the program of developing packaging material which would prevent or minimize damage by commensal rodents, cooperative studies were initiated in June, 1950, between the Fish and Wildlife Service and the National Carbon Co., Inc., Bennington, Vt., to develop a flexible vinyl plastic film having rodent-repellent properties.

Exposure-station tests carried out at Denver, Colo., had demonstrated the relatively high degree of repellency to wild rodents of several compounds when applied as a surface coating to test fibreboard boxes (1, 2)[1], but no information was available concerning the activity of these when incorporated in plastic film.

For the tests, a 200- to 300-gm. sample of each of four candidate repellent materials was supplied to the National Carbon Co., Inc. These were, zinc dimethyldithiocarbamate-cyclohexylamine complex[2], tetramethyl thiuram disulfide[3] and two compounds of the trinitrobenzene complex[4]. The investigations relative to the formulation and feasibility of incorporating these in calendered vinyl film[5] were carried out by the company and the resultant films sent to the Denver Wildlife Research Laboratory, where the evaluation of their resistance to rat and mouse attack was determined.

1. COMPARISON of the damage done by house mice to six different boxes covered with variously treated vinyl films, after six months' exposure to attack. Note that Box 1 (Film 1C-674) and Box 4 (Film 1C-673) have not been damaged. Identifications of other treatments: Box 2 (Film 1C-672); Box 3 (no film); Box 5 (untreated film); Box 6 (Film 1C-676).



2. ROOF RATS caused the varying degrees of damage shown to these vinyl-covered boxes in one month's exposure. Note that Box C (Film 1C-674) is the only one undamaged at this point; it was finally penetrated on the 39th day. Other identifications: Box A (no film); Box B (Film 1C-676); Box D (untreated film); Box E (Film 1C-672); Box F (Film 1C-673).

Preparation of test film

The efficiency of the test chemicals in calendered film was to be evaluated by comparison to results already obtained with these chemicals when applied in a concentration of 0.05 gms. per sq. in. to the surface of test fibreboard boxes. Accordingly, efforts were made to duplicate as nearly as possible this concentration in these films. It was not possible, however, to introduce enough of any of the chemicals into a thin film to reach this concentration; therefore, in each case the repellent was added in the highest concentration which could be adapted to normal calendering technique.

In preparing the test films the following base film was used:

Vinylite resin	66%
Flexol DOP	33%
Stearic acid	1%
Total	100%

* Studies described were conducted under grants from the Quartermaster Corps., U. S. Army.

† Biologist, Wildlife Research Laboratory, Fish and Wildlife Service, U. S. Department of the Interior, Denver Federal Center, Denver, Colo.; with the technical assistance of Millard Graham.

** Development Engineer, National Carbon Co., Inc., Bennington, Vt.

1 Numbers in parentheses identify "References" appended.

2 Supplied through the courtesy of B. F. Goodrich Chemical Co.

3 Eastman Kodak Co.

4 These compounds were prepared by Ervin Bellack, Fish and Wildlife Service, Patuxent Research Refuge, Laurel, Md.

5 The preparation of the vinyl films and the fabrication of these into box covers for rodent evaluation tests were carried out by R. D. Stambaugh and E. G. Shesler, respectively, of the National Carbon Co., Inc.

The chemicals were added to the base compound on a two-roll mill at 275 deg. F. To prevent sticking it was necessary to introduce the chemicals very slowly to the hot mill rolls. When on the mill the repellents acted as temporary plasticizers, since apparently their melting points were approached by the temperature of the mill rolls.

The films were prepared on an 8-by-16-in. experimental calender and were slit 11 in. wide. Attempts were made to produce a film 0.004-in. thick, but this had to be increased in some cases to allow for stripping of the film from the last calender roll. The temperature of the rolls was maintained at about 275 deg. F. throughout the operation.

A description of the films and comments on their behavior in the calendering process are given in Table I.

In the experimental preparation of these films none of the chemicals in the concentrations used indicated any toxic hazard in the calendering process. It was noted, however, that zinc dimethyldithiocarbamate - cyclohexylamine complex (1C-672) exhibited a strong, disagreeable odor. On standing, the film containing the trinitrobenzene complex (1C-674) appeared to have the greatest sweat-out or bloom on the surface. On a hot and humid day there was some evidence of this causing irritation to the skin while handling. The film containing tetramethyl thiuram disulfide (1C-676) appeared to have the least sweat-out. As will be shown later, there appears to be come correlation between this sweat-out and the effectiveness of the test film against rodent attack.

Repellency of test films

To evaluate their rodent resistance, the test films were made up as box coverings having the dimensions of 10 by 8 by 9 in. so they could be slipped over the standard fibreboard test box. They were folded at the bottom and closed with a liquid cold seal. The covers, as received, were electronically sealed with a cut seal. All the films sealed satisfactorily.

Appraisal was carried out in accordance with standard procedure (3). This consisted of the exposure of the plastic-covered boxes to wild rats and house mice under conditions approximating those in commercial warehouses. (See Figs. 1 and 2.) To attract the animals, the boxes were partially filled with food. They were then *(This article continued on page 182)*

TABLE I—CALENDERED RODENT-REPELLENT FILMS

Film no. and color	*Repellent compound and concentration*	*Film thickness (inches)*	*Weight per cent*	*Behavior of film in calendering process*
1A (clear)	Standard film	0.0039	...	...
1C-672 (tan)	Zinc dimethyldithiocarbamate-cyclohexylamine complex, 0.020 gms. per sq. in. of film	0.0057	15.0	Tended to stick to calender rolls as concentration was increased. Banks did not roll smoothly.
1C-673 (maroon)	A trinitrobenzene complex, 0.045 gms. per sq. in. of film	0.0056	40.0	Sticks very badly, very low yield of film.
1C-674 (orange)	A trinitrobenzene complex, 0.025 gms. per sq. in. of film	0.0038	31.5	Calendered very well, smooth rolling banks, good roll release. Compound seems particularly suitable for the film-calendering process.
1C-676 (lemon)	Tetramethyl thiuram disulfide, 0.020 gms. per sq. in. of film	0.0051	18.0	Calendered fairly well, but was very tacky.

TABLE II—RELATIVE RESISTANCE OF TEST VINYL FILMS TO WILD RAT AND HOUSE MOUSE ATTACK

Film identification	*Total no. test boxes*	*Average number days until film was penetrated by*		
		Roof rats	*Norway rats*	*House mice*
1A-Clear. Standard vinyl film	9	4	7	12
1C-672. Zinc dimethyldithiocarbamate-cyclohexylamine complex in a concentration of 0.020 gms. per sq. in. of vinyl film	9	12	23	24
1C-673*. A trinitrobenzene complex in a concentration of 0.045 gms. per sq. in. of vinyl film	3	20	Film undamaged at end of 50 days' exposure.	Plastic covering only slightly touched following seven months' exposure.
1C-674. A trinitrobenzene compex in a concentration of 0.025 gms. per sq. in. of vinyl film	9	39	Film undamaged on five boxes at end of 50 days' exposure. One film penetrated on 18th day.	Plastic covering only slightly touched following seven months' exposure.
1C-676. Tetramethyl thiuram disulfide in a concentration of 0.020 gms. per sq. in. of vinyl film	9	11	Film on five boxes penetrated in average of 12 days. Remaining film still intact at end of 50 days' exposure.	18

* Calendered badly, yielding only enough film for three box covers.

Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Protecting wax-coated products

QUESTION: We have a new product which is coated with a special wax. The wax we are now using will crack at about 45 deg. F. and will melt at about 115 deg. F. When the product is in use, it will not be exposed to these extremes of temperature. Our problem is in shipping and we would like to know what can be done to keep the product from being damaged when exposed to extreme temperatures in summer and winter. This product will be shipped all over the United States and in export, and we would like a package which will have the effect of protecting the product for at least a 30-day period.

ANSWER: Unfortunately, there is no package construction which will prevent ambient temperature changes for more than a very brief period. Insulated packages are used for the transient handling of ice cream and foil barriers would also be effective in protecting products from the effects of temperature changes for short periods. But neither of these types of packages would be effective for long periods of time over the wide temperature range which would be met by your product in shipping and handling.

The answer to your problem would appear to depend upon changes in the formulation in the wax coating that would increase its working range. There are many waxes and additives available which will give your wax coating a much wider temperature range. A wax coating could be developed which would not be affected by normal temperatures in storage and handling even in export.

Flexible pack for powdered bleach

QUESTION: I am interested in marketing a bleaching powder for home-laundry use containing a high concentration of chlorine. I would prefer not to use a glass container, but would like to try a flexible packaging material.

The material which is selected must be resistent to chlorine and impervious to moisture, as well as capable of attractive display. Can you suggest satisfactory materials and package constructions for this particular product?

ANSWER: A flexible package of bleaching powder carrying a high percentage of chlorine will be very difficult to develop for an extended shelf life.

The best chance you will have of success will be by the use of a heat-sealable plastic film of a type which is resistant to attack by chlorine and which will prevent the passage of chlorine vapors. The film must also be extremely moistureproof, because the addition of moisture to your product will probably cause the formation of gas which will make a tightly sealed package swell and perhaps burst.

Probably the simplest package for your product will be a heat-sealed envelope made from a plastic film. Such a pouch must be of simple construction that can be made strong by heat sealing and must also be free of pinholes.

If you find it necessary, several of these envelopes can be placed in a folding carton for display purposes. It is not possible to decide just what plastic film would perform most satisfactorily without making a number of laboratory tests. It is suggested that you obtain a variety of plastic films, make up samples in heat-sealed pouches and test these samples under accelerated conditions of temperature and humidity. A laboratory test of this type will very quickly indicate which films will satisfactorily preserve your product or, of course, if any of the films has promise of being satisfactory for your purposes.

Damage from vibration and shock

QUESTION: We have been having difficulty with breakage resulting from shock and vibration in the shipping and handling of an electronic unit which we are manufacturing. We have tried various kinds of shipping cases for our equipment, but these have not reduced breakage. We would appreciate any suggestion you might have on how these losses from shock and vibration can be reduced.

ANSWER: There are many factors which can cause shock and vibration damage to a piece of equipment which goes through usual channels of shipping and distribution. Even if you had supplied much more detailed information, it still would not be possible to give you a precise answer to the question of why the damage occurs.

However, certain basic principles appear to require consideration if you are to solve your problem. The first of these involves the inherent durability of the piece of equipment. Unless you can engineer into your unit a reasonable level of durability, batting and pads cannot reduce the danger of damage to reasonable levels. The next step is to use internal blocking and pads in the equipment to increase its durability further.

At this point the equipment should have sufficient durability to require only a reasonable amount of padding and protection by the shipping case to reduce damage to acceptable levels. However, it is well to remember that the excessive use of pads and soft cushioning can contribute to danger by allowing the unit to float too freely within the case. After you have increased the durability of the unit itself, you will probably find that the use of a rather firm pad within the case is probably all that is necessary.

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Today, surveys in supermarkets reveal that 66% of all food purchases are decided in the store . . . at the point of sale; this puts a big selling responsibility on the package. That's why you should consider colorful Du Pont "Cel-O-Seal" bands . . . they add extra sales appeal . . . the kind that attracts shoppers . . . help your product *sell itself!*

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"CEL-O-SEAL" PROTECTS against tampering, creates customer confidence.

"CEL-O-SEAL" PROTECTS against leakage, keeps tight closures *tight.*

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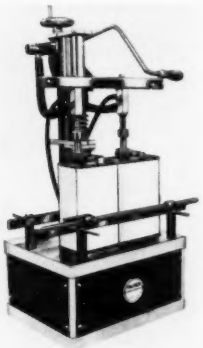
Equipment and materials

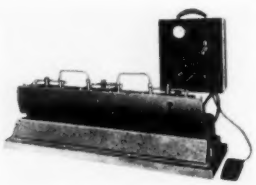
A LOW-COST, SEMI-AUTOMATIC LIQUID FILLER

known as the "Bench Model Liquid Filler" has been added to the line of the Packer Machinery Corp., 30 Irving Place, New York. This compact unit is normally available in two different types. One unit, supplied with pump and motor, is for vacuum operation; the other, for filling only by gravity. Where filling requirements are complex, a combination unit is offered that will allow either vacuum or gravity filling. The machine has been designed to meet the requirements of companies that do not have need for the larger, high-production models. The vacuum filler will fill metal and glass containers from fractional ounces to quart sizes and is available with three or four spouts. It fills directly from drum, carboy or other container resting on the floor. Speed is in excess of 25 containers per minute. The gravity filler is recommended for filling gallon cans or liquids that cannot be filled by vacuum. The standard unit, equipped with two gravity spouts, fills from fractional ounces to 1-gal. cans at speeds of approximately 10 pints or 4 gallons a minute. The machine will fill practically any still liquid—thin, foamy, viscous, hot and cold. Typical products handled are chemicals, foods, pharmaceuticals, syrups, waxes, liquors, oils, thinners, etc. All metal parts coming in contact with liquids are of stainless steel. Flexible tubing is Neoprene, or chemical-resistant plastic tubing will be supplied if required.



A NEW LINE OF HEAT-SEALING EQUIPMENT

for use on all heat-sealable barrier materials, introduced under the name "Sentinel Heat Sealer" by Packaging Industries, Ltd., Inc., 50 Church St., Montclair, N. J., is said to overcome former points of failure in a heat seal by providing for the simultaneous application of the right heat, pressure and dwell time at the sealing jaw. Pneumatically operated, the pressure at point of seal is regulated by the turn of a dial which registers in pounds per square inch. Heat is thermostatically controlled from 250 to 500 deg. Dwell time is regulated within fractions of a second. All three factors are instantly readable and adjustable. The sealing operation is activated by a remote-control switch which may be operated by hand, foot, automatically, or it may be synchronized with other moving equipment. Once the action is started, it is automatic until the entire cycle has been completed in accordance with settings made in advance. The equipment is available in models from 1 to 24 ft. in length. The 3-ft. model is illustrated here.

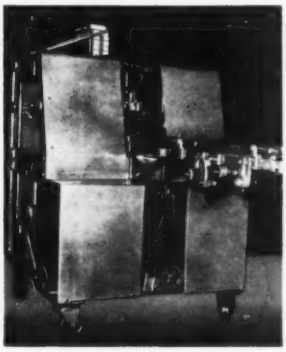


VINYL ACETATE COPOLYMERS

custom made to meet the user's requirements are reported available now from the National Adhesives Division of National Starch Products, Inc., New York. Potential applications for the resin solutions are in adhesive formulations, heat-seal coatings, laminations, gloss coatings for paper, greaseproof coatings, high solids lacquers and protective coatings requiring good adhesion. The new resin solutions are said to give improved adhesion to a wide variety of difficult surfaces. They can be supplied in a range of molecular weights, in various solvents, in concentrations ranging from low to unusually high solids content, with either increased or decreased residual tack. For a number of years National has polymerized vinyl acetate in solution form, making copolymers with intrinsic differences in chemical structure to give them certain unique properties. Increased production capacity resulting from their current expansion now makes it possible for National to supply these solutions to other users on a "tailor-made" basis.

A PILFERPROOF TAPER

which applies 1¼ in. of pressure-sensitive tape to one side of a package, or 3 in. if used on two sides, is being offered by E & R Machine Co., Parker Road, Hamburg, N. Y. Operating at a speed of up to 90 packages per minute and using tape ¾ to 1 in. in width, the machine is quickly adjustable for different sizes of packages. Installed at the end of an existing packaging line, packages enter the machine on a conveyor, are elevated up past the tapers and discharged at the top, from where they slide down a chute to the packing table. No operator is required except to put on additional rolls of tape. The minimum size of package handled is ½ by 2 by 2 in. and the maximum is 4 by 6 by 16 in. Floor space required is 3 ft. by 5½ ft.



A NEW LIGHT-WEIGHT COMPRESSION TESTER

that enables compression and crushing tests to be made quickly and easily is being offered by the Labquip Corp., 4520 W. North Ave., Chicago 39, Ill. This low-cost, light-weight, portable hydraulic compression machine is said to have been used with excellent results on metal, ceramic, wood and plastic parts; on paper boxes and other containers and on soils, springs and similar materials. It can be employed on inspection lines and in industrial laboratories and is an adaptation to industrial use of the apparatus widely used in the engineering soil-testing field by government and military testing laboratories, etc. In this machine, the load is applied to the test specimen through a hydraulic system actuated by compressed air. When connected to a convenient air source, it is ready for testing and no warm-up period is required. The load applied to the specimen is indicated on the dial of a double proving ring. Complete stress-strain data may be obtained by reading the proving-ring dial and the specimen strain dial at intervals during the test. An important feature is the ability to release the load instantaneously at any time during the test or at the point of failure, thus keeping the specimen intact. The standard model has a capacity of 350 lbs. under an operating air pressure of 100 psi, but ma-

Sleight o' Hand Performance

1. Large circular is fed from magazine—folded 3 times—inserted under the bucket.
2. Jar is conveyed to position—gently laid horizontally in bucket with large circular.
3. Flat folded carton is fed from magazine and opened.
4. Jar and large circular are inserted in carton.
5. Small leaflet is fed from magazine—inserted between top side flaps.
6. Both ends of carton are tucked—completed package is delivered.

—more than 200 per minute

This complicated load, involving 4 separate pieces and 6 precise operations, is packaged at the rate of more than 200 per minute by the JONES Fully Automatic Cartoning Machine. It is one of 12 JONES machines cartoning the various Vick Chemical Company products in their domestic and foreign plants.

Basic and tested features of design enable these JONES Cartoners to maintain high speeds in loading complicated, fragile and multiple combinations with utmost dependability, and at lowest possible cost. Simpler loads are cartoned with corresponding efficiency.

In hundreds of plants turning out cartoned products in large, continuous volume, JONES Cartoners are challenging the best pace of the most advanced types of processing, filling and labeling machines. JONES has demonstrated, over and again, that where product cartoning has been a "bottle-neck" a JONES Cartoner is the likely solution.

Specialist cartoning engineers in the Jones organization are available to discuss carton loading problems with your engineers and production executives; no obligation.

Jones fully automatic constant motion Cartoning Machine

THE RECORDS of 97 carton-loading jobs are detailed in this book which will be sent to you FREE on request. It compares costs of hand loading with fully automatic loading by a Jones machine, covers all types of loads from simplest to most complicated. Ask for your copy today.

R. A. JONES & COMPANY, INC.

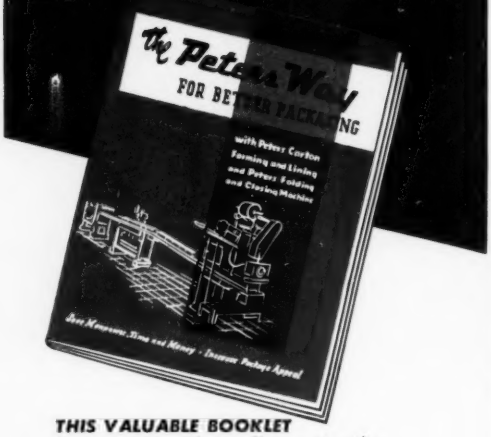
Cartoning Machines · Strip Presses

P. O. BOX 2055, CINCINNATI, OHIO

"Collector's Item"

for profit-minded

PACKAGING EXECUTIVES



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It tells you how you can save time, money and manpower the *Peters Way* of packaging.

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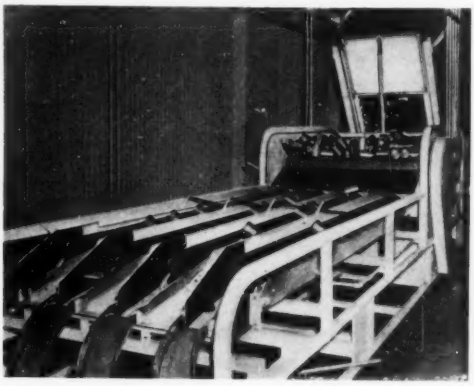
Equipment and materials

chines with capacities up to 1,000 lbs. can be supplied on order. A convenient, light-weight air-storage tank with carrying handles is available for use in field laboratories or in places where there is no regular air supply.

A NEW CAN UNSCRAMBLER

being manufactured by the Dudley Machinery Corp., Mountain View, Calif., is reported virtually to eliminate product damage to items like asparagus, figs, pears and whole tomatoes as a result



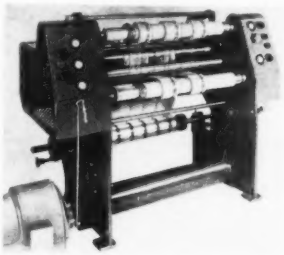
of rough unscrambling after retorting. The Dudley unscrambler handles can sizes from 6 oz. to No. 2½, talls, ovals, flats and oblongs, as well as rounds. It is quickly adjustable by means of a single side-mounted lever. A gentle "roll-off" principle delivers cans to labeling lines at capacities up to 750 per minute. The Dudley Model 100, designed for use where smaller capacities are required, is a single-lane unit, but is adaptable to double-layer operation when cooker output is increased. The Model 400 (illustrated) has four lanes in standard 5-ft. width, adjustable height.

A GRAVITY FEED TANK

is now included as part of all of the straight-line gravity filling machines manufactured by the MRM Co., Inc., 191 Berry St., Brooklyn 11, N. Y. The tank is controlled with its own individual float-control mechanism and is adjustable for height to minimize foam overflow. Users of MRM rotary filling machines can convert to this type of gravity filling at a minimum cost.

A NEW FILM SLITTER AND REWINDER

said to be of an entirely new design based on the latest technique in the field of slitting plastic film, foil and pressure-sensitive tape has been introduced by John Dusenbery Co., Inc., 271 Grove Ave., Verona, N. J. The main tension controlling devices on the payoff and rewind are air operated to enable operators to determine the optimum running conditions for a given material and to duplicate previous performance. The main pull rolls and grooved cutting roll are driven by adjustable slip clutches and may be idled or over-



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Sales offices in New York, Chicago, Dallas. Pacific Coast distributor: Wilson & Geo. Meyer & Co., San Francisco, Los Angeles, Portland, Seattle. Canadian distributor: Paper Sales Limited, Toronto, Montreal.

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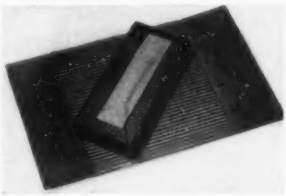
Equipment and materials

driven to control stretch between these rolls. While the machine has been designed primarily for use on large-scale production, it is also suited for engineering development purposes for slitting new products and obtaining quantitative data on products in production. The machine is adapted for both stationary razor blade and rotary burst type cutting. Widths handled are 32, 42, 52 and 62 in. The rewind diameter is 12 in. and the core diameters are 1 and 3 in. Minimum slit width is ¾ in. Speed depends on static created, with a maximum of 500 FPM.

A NEW LOW-COST CORRUGATED WRAPPER



of the "French Wrap" type is now being produced by the Shelton Manufacturing Co., Inc., 591 Ferry St., Newark 5, N. J. The company has introduced this low-priced line of wrapper to provide a complete corrugated board line to its customers and to assure utmost economy for the consumer in view of the critical shortage and high cost of kraft papers. Facilities at the Shelton plant have been enlarged to provide the new "French Wrap" in any size required.

A NEW LABEL ADDRESSING AND MARKING MACHINE

which should be of interest to firms using large quantities of shipping labels or identifications labels is the Weber Tag-O-Graph Model KC, manufactured by the Weber Addressing Machine Co., Mt. Prospect, Ill. The unit will print and address shipping labels, or print and mark identification labels, in one operation from a roll of plain gummed or ungummed label stock. The Model KC reproduces from a stencil which can be quickly and easily prepared on a typewriter, or which can be hand written or hand lettered with a stylus furnished with the unit. The long-life stencils, which will give several thousand clear, sharp and legible reproductions, are available in three sizes, printing 9, 12 or 15 lines. Special process ink insures waterproof and fadeproof permanent impressions. The machine is adjustable to print and cut off labels from a minimum size of ¾ by 2 in. to a maximum size of 3¼ by 6 in. Label stock is automatically fed through the machine and 100 printed labels are turned out per minute. A counting device tabulates the exact number required. The machine is available in manual or electric models, the electric model being equipped with pre-set automatic cut-off counting device. Weight is 22 lbs. and over-all size is 9 by 20 by 11 in., which gives the user portability.

CONTINENTAL CAN CO.'S NEW TRADEMARK

for the complete line of paper cups and containers produced by the company's Paper Container Division features the name "Continental." It replaces the name "Mono," associated with the Mono Service Co. which Continental acquired in 1944. According to the company, the new brand name reflects the trend toward wide acceptance of paper containers produced by the firm and identified with Continental by the food and dairy industries. The new trademark will appear on all nested paper cups, wax tubs and containers, and cylindrical paper cans, as well as on letterheads, shipping cartons and trucks.

RADO PACKAGING SYSTEM

Some of the packages produced by Technopol Laboratories, Ltd.

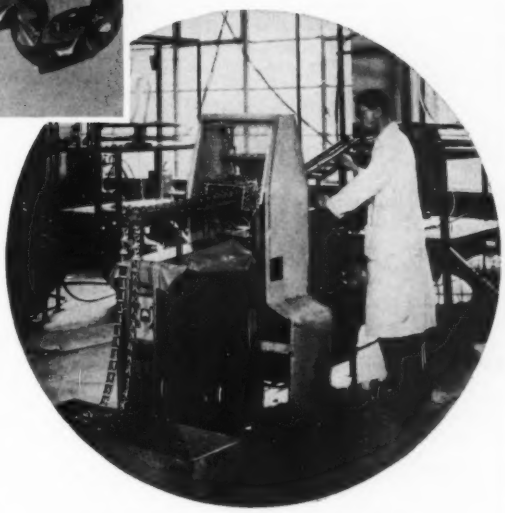
U. S. A. Patent Nos.
2,517,027, 2,530,400

British Patent Nos.
599174, 599183.

Patents in 36 other countries and further patents pending.

THE RADO PACKAGING PROCESS is for the production of liquid or paste-filled containers from any thermoplastic material. Containers of different shapes and sizes can be produced with the same machine, which is quickly adjustable. A new type of collapsible tube can be produced continuously. This new collapsible tube has no screw-cap and is provided with a self-sealing aperture to expel there-through portions of the contents.

If you have substances to be packed or you are interested in the process and machinery, communicate with the factories in your relative countries where Packaging Service Stations are at your disposal and where you can see the plants in operation; otherwise ask for further information from:



Type "A" Packaging Machine (produces sixty 18 cc packages per minute)

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FRANCE: (Algiers, Tunis, Morocco) S. E. P. (Soc. d'Emballages Plastiques) Office: 87 Rue Notre-Dame-des-Champs, PARIS 6e. Telephone ODEON 71-33. Factory: 24 Avenue de la Republic. CHATOU. France. Tel: 274.

BELGIUM: (Holland, Luxembourg, Belgian Congo) S. E. P. (Soc d'Expansion des Matieres Plastique) Office: 41 Rue de La Vallee, (Onderbergen), GAND. Tel: 594.96. Factory: 68-7 Rue de l'Agrafe, Anderlecht, BRUSSELS. Tel: 22.19.32.

SWITZERLAND: GISIGER & CO. Office: Claridenhof, Dreikonigstrasse 21, ZURICH. Tel: (051) 27.24.47/ 25.00.30. Factory: Obfelden.

AUSTRIA: Tupla Gesellschaft, Vienna, IV., Wiedner Haupstrasse 8 Telephone: A 34067

EIRE: TECHNOPOL LABORATORIES (EIRE) LTD., 81/2 Aungier Street, DUBLIN. Tel. Dublin 53524.

Plants and people

R. Chester Reed, formerly secretary of the package committee of **The Texas Co.,** has been advanced to supervisor of packages and shipping for Texaco. Mr. Reed was recently elected a vice president of the Packaging Institute and also is chairman of the Institute's Petroleum Packaging Committee. He is secretary of the Joint Container Committee of the American Petroleum Institute and the National Lubricating Grease Institute.

Mr. Reed

National Starch Products, Inc., has announced the launching of a $2,000,000 program to expand its resin activities. The first step in this three-year program will double National's present capacity for producing vinyl acetate polymers and copolymers. Plans have been drawn for construction of a new research building to provide additional facilities required for the new program. The increased production capacity resulting will enable the company to supply these resins to other users. For a number of years National has polymerized vinyl acetate to make solutions and emulsions principally for use in its own adhesive formulations. National intends to market vinyl acetate copolymers in three forms: solution, emulsion and hot melt, "tailored" on a specialty basis to the user's needs.

Dr. Vlon N. Morris has been chosen as director of research by the **Shellmar Products Corp.,** Mt. Vernon, Ohio, converter and manufacturer of flexible packaging materials. Dr. Morris will coordinate and direct existing research and development activities and their expansion. Since 1940 Mr. Morris has been connected with the Industrial Tape Corp., most recently as technical director. A contributor of numerous articles to scientific journals, Dr. Morris is also the holder of many patents.

Dr. Morris

Philip B. Whiting is now controller for Shellmar, succeeding **Kenneth L. Warren,** recently elected treasurer of the corporation. **George L. Breithaupt** has been appointed to Shellmar's legal staff in Mt. Vernon, succeeding **T. L. Bieber.**

The Food Machinery & Chemical Corp., San Jose, Calif., has made two staff appointments to the personnel of its newly acquired subsidiary, **Simplex Packaging Machinery, Inc.,** of Oakland, Calif.: **William A. Wolff** as works manager and **M. William Smith** as Northern California sales representative. Both appointees were formerly members of FMC's **Anderson-Barngrover Division** at San Jose. This division is now the Western unit of the recently formed **Canning Machinery Division,** a consolidation of the Anderson-Barngrover and the **Sprague-Sells** Divisions. The Simplex organization, which manufactures bag-making machinery for packaged food products and other items, will be operated as an integral part of the **Stokes & Smith Co.,** an FMC subsidiary in Philadelphia.

Stokes & Smith Co. held a two-day sales conference recently which was attended by 55 representatives from all sections of the country. The meetings were arranged by **Carl E. Schaeffer,** general sales manager, and **William R. Huguenin,** plant manager.

Vanant Products, Milwaukee, Wis., has appointed **Jerry Goldsmith & Associates,** Baltimore, Md., as exclusive sales representative for the District of Columbia, Maryland, Virginia and a part of Pennsylvania. Associated with Mr. Goldsmith are **William W. Peat** in the Baltimore office and **Hal Hansen** in the Reading, Pa., office. Jerry Goldsmith & Associates, who have represented **Shellmar Products Corp.** in that area for 24 years, will continue to represent that company in the commercial packaging field, but will represent Vanant Products in military specification and industrial protective packaging.

The business formerly owned by **Sameric, Inc.,** of Riverdale, N. J., has been sold to **Owens-Illinois Glass Co.,** Toledo, Ohio, according to a joint announcement by Owens-Illinois and the former owners of Sameric, Inc., **Erich Gronemeyer** and **Samuel Cherba.** Owens-Illinois will acquire the Riverdale plant, machinery, equipment, raw materials and patent rights of the former owners and used in the business. The plant manufactures thermoplastic caps and closures for glass and metal containers and similar plastic articles. The business will be operated under the direction of Messrs. Gronemeyer and Cherba at the same location, as the Riverdale plant of the Closure and Plastics Division of Owens-Illinois.

The resignation of **E. Cameron Hawley** as director of advertising and promotion of the **Armstrong Cork Co.,** Lancaster, Pa., and the appointment of **Max Banzhaf** to succeed him has been announced. Mr. Banzhaf has been acting director of advertising and promotion since last July, when Mr. Hawley began an extended leave of absence. Mr. Hawley plans to devote his time to writing and to the operation of his Lancaster County farm.

Bill Keil is now in charge of the **Package Machinery Co.'s** Chicago office, replacing **Bob Strehlau,** who has taken a position in the East with the **Triangle Package Machinery Co.** Mr. Keil, who has been in charge of another territory covered by the Chicago office, will serve all the major accounts previously handled by Mr. Strehlau, as well as those which he has been calling on in his own territory. **Bill Maybury, Jr.,** has been assigned to the Chicago office and will represent the company as a salesman in the Midwestern territory.

George A. Mohlman, for 33 years associated with the Package Machinery Co. and recently retired as chairman of the board under their retirement plan, has started a new venture. He and **Joseph F. Reis,** president of Reis Associates, designers of packaging machinery and experienced in production methods and plant layout work, have joined forces and will be known as **Mohlman & Reis, Inc.,** Suffield, Conn. They will act as consultants in management, production and engineering and are prepared to design special automatic machines which can bring about economies, particularly in the packaging field. Under their method of operation, regular packaging machinery manufacturers build the machines Mohlman & Reis design for their clients.

George I. Croll, formerly with the National Folding Box Co., Inc., has joined the **Continental Folding Paper Box Co., Inc.,** Ridgefield, N. J., as vice president of sales.

Bradner Smith & Co., Chicago, is celebrating its 100th anniversary of business this year. In 1852 the wholesale paper business of Bradner Smith & Co. was established in a one-room store and the present firm style has remained unchanged during the entire period. Previous to 1852 it was styled Bradner Warren & Co. The company also engaged in the manufacture of paper and operated mills in Illinois, Wisconsin, Michigan and Indiana.

Marshall M. Smith, former director of the machinery division of NPA, has been appointed managing director in the Paris office of the **Emhart Mfg. Co.** In his new capacity, Mr. Smith will be in charge of European and North African business for all Emhart's operating units, including **Standard-Knapp,** Portland, Conn., manu-

. . this box is "just the dish" for impressive product display

Boontonware sales are soaring. This "bounceable" dinnerware is easy to sell, easy to buy—largely because of effective, attractive, practical packaging. H & D display boxes in which Boontonware is packed set up in a matter of seconds on the dealer's counter, occupy a minimum of space, attract favorable attention to the product, invite inspection—and in displaying complete "sets," increase the unit of sale.

Whatever your product, an adaptation of this packaging idea may work for you. This package is only one of many types of boxes developed by the H & D Package Laboratory for products in every field — to help increase sales, reduce packaging costs, provide better product protection. For free booklet, "Pack To Attract," write Hinde & Dauch, 5208 Decatur Street, Sandusky, Ohio.

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PORTABLE AND DESK MODEL MICROMETERS with easy-to-read dials

CADY
Hand Model

has cast aluminum frame, shaped to fit hand; convenient trigger raises and lowers anvil; capacity is thickness up to ½"; horizontal glass covered 3" diam. dial graduated 1/1000ths of an inch. For use throughout the plant or when traveling. Extremely accurate; direct reading; no computing. Spherical end anvils available on order.

For calipering thicknesses of Papers, Boards, Foils, Felt, Glass, Metals, Plastics, Rubber; Sheet stock or Finished Products with thicknesses to one-half inch.

CADY
Standard Model

Registers thickness to 5/16"; available with 4, 7, 12 or 18" throats. Glass covered dial is 6" diameter; graduations 1/1000ths inch.

CADY
Dead Weight Model

Dead Weight Anvil descends by gravity for extremely uniform pressure and completely accurate calipering. 6" diameter glass covered dial; 1/1000ths graduations.

Write for data and prices: Burst Strength Testers, Micrometers, Basis Weight Scales.

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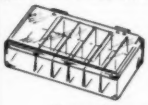
2¼x1¾x⅜"
SLIDE COVER

1001 different rigid Polystyrene boxes of varying sizes, shapes and styles are available from stock. We have fifty different molders providing us with their full output in addition to our own molding department.

If it's a plastic box you require, regardless of quantity, BRADLEY can serve you . . . hinged, unhinged, plain, compartment, transparent . . . any style box you need in stock.

No. 32
2⅛ Dia.x⅝"
deep



No. 314
5½"x3x¼"
6 Compartments
Hinged

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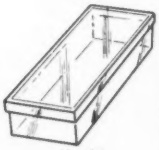

No. 34
4⅛x1⅞x1"
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Plants and people

facturer of automatic packaging machinery, and **Plax Corp.**, Hartford, Conn., maker of polyethylene bottles and other plastic products. Prior to his NPA post, Mr. Smith had supervised the re-organization of the English and French subsidiaries of the E. W. Bliss Co. Previously he had been European director of the Worthington Pump & Machinery Corp. Starting in March, Mr. Smith's address will be c/o Arthur Andersen, Turquand, Youngs & Co., 11 Rue Le Grand, Paris, France.

H. B. Lermer

Herman B. Lermer and **Irving S. Lermer,** formerly president and vice president, respectively, of the Celluplastic Corp., Newark, N. J., have founded **Lermer Plastics, Inc.,** at 602 South Ave., Garwood, N. J. The new company, headed by Herman B. Lermer, president, and Irving S. Lermer, executive vice president, will specialize in the production of plastics containers and products.

Shellmar Products Corp., Mt. Vernon, Ohio, packaging converter, has announced a policy change in its production of barrier materials for military packaging. It will continue to be a manufacturer of barrier material in roll form only, discontinuing the fabrication of barrier material into bags, pouches, gasketed sheets, etc. Shellmar is now concentrating on its "Shell-Flex" and "Durofoil" roll materials.

Mason T. Rogers, who retired recently as packaging and merchandising director of Dewey & Almy Chemical Co., has opened a general merchandising consulting office. Mr. Rogers, who was president of the Packaging Institute in 1947 and 1948, has had 30 years' experience in the merchandising field. One of his first clients is the Dewey & Almy firm, for whom he will pioneer a new idea of gaining customer support. Mr. Rogers plans to cooperate with trade associations, federal and state authorities and others interested in processed foods.

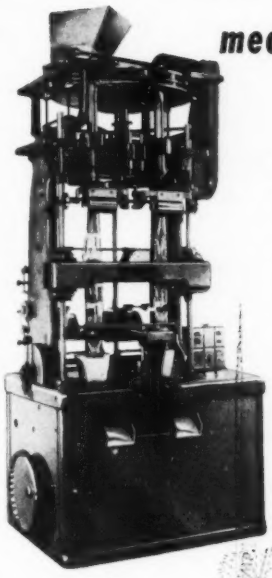
Gen. E. R. Quesada, Retired, has been elected vice president and director of **Olin Industries, Inc.,** East Alton, Ill. Gen. Quesada will be directly concerned with Olin Industries' contemplated expansion in the field of cellulose and minerals.

The appointment of **Edward Hartshorne** as manager of the research and development department, Olin Cello-

TRANSWRAP

POWDERS TABLETS FREE FLOWING SOLIDS LIQUIDS OR SEMI-LIQUIDS

a better "BAG" means PLUS sales ... at lowest costs



Show your product. Step up your sales with a package that will lead the competition in today's self-service merchandising. Transwrap gives you more eye-appealing package — a package that shows your product — ***lets it sell itself.*** *The first automatic packaging machine to satisfactorily heat-seal polyethylene at high speeds, Transwrap offers you the biggest buy in economy packaging today.* **If you use any of these heat-sealed "bag" materials, Transwrap can cut your packaging costs in half:**

- ☐ Polyethylene
- ☐ Pliofilm
- ☐ Cellophane
- ☐ Vinylite
- ☐ Glassine
- ☐ Metal foil
- ☐ kraft papers
- ☐ "tea bag" papers
- ☐ laminated stock
- ☐ vegetable parchments

Volumetric Unit *— designed to package larger-sized, free-flowing products—40 to 75 units per min. Meters down to 1 item per package—up to unlimited quantities (within 80 cu. in.). Fed by volumetric cups. Pillow packages—with or without gussets . . . 1-13/16"x3" to 5¼x13". Size—4'x5'x8½'; wght. — 2330; ¾ h.p. geared motor; 1640 volts.*

✓ **These exclusive Transwrap advantages**

*** added strength and resilience of bag * precision forming of bag * uses economical, double-width rolls * easy-to-open serrated edges * prevents puckering, distorting, or gumming of bag material**

TRANSPARENT-WRAP MACHINE CORP.

Want to cut your packaging costs? Write for our 8 pg. brochure—it's free! Shows every Transwrap model—gives details of economy operation; it's a complete "package" on modern packaging economy! Use this coupon today!

Need help? Transwrap's engineering staff will be glad to assist you in analyzing your packaging requirements . . . make specific recommendations designed to improve your production—at lower costs.

See us at Booth 211 National Packaging Exposition

TRANSPARENT-WRAP MACHINE CORP.

142 Rt. 17, Hasbrouck Heights, N. J.

- ☐ Please send your free 8-page brochure
- ☐ Have one of your sales engineers contact me—**rush!**
- ☐ Furnish delivery and installation data, with terms

Name ..... Title.....

Company .....

Address .....

City ..... State .....

Call off the detectives! Andrews specialty envelopes cover the entire range for any sort of product that can be put into these handy containers. And where unique problems arise, Andrews experts devise money-saving solutions.

SLEUTHING FOR A SPECIALTY ENVELOPE? ANDREWS HAS IT!

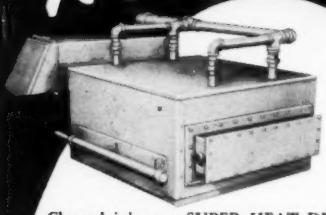
Take record jackets, for instance. Right now Andrews is making more than twenty-five individual varieties — to protect military service records, insurance policies, bonds and other valuable papers. Andrews' enormous know-how and better than thirty years experience will show you the answer to your packaging difficulties. A creative minded Andrews salesman will give you practical assistance. Write or call now.

* Patent Pending

P. L. ANDREWS CORP.

1328 Broadway New York, N. Y.

check this **New** SUPER HEAT DRYER



Champlain's new SUPER HEAT DRYER features high temperature drying. Special cooling device protects web during idle periods without appreciable loss of heat. Temperature ranges from 70° to 800° F. Web is subjected to high heat for a fraction of the time usually required, permitting wide variety of stocks—thin paper, heavy board, cellophane, foil, etc. Unit is automatic with independent safety control. Available for standard web width sizes of 9, 15, 21, 28, 31, 37, 45.

CHAMPLAIN COMPANY, INC.

88 Llewellyn Avenue, Bloomfield, New Jersey
Chicago office: 520 N. Michigan Ave., Chicago 11, Ill.

Please send me folder C describing the new SUPER HEAT DRYER.

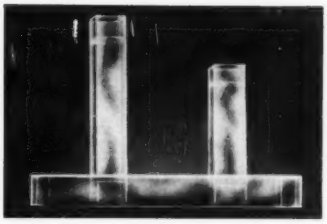
Name _____

Company _____

Street _____

City _____ State _____ 8262

have you tried



the *"Bright"* transparent seamless carton?

IT OFFERS lower cost rigid plastic packaging with complete visibility. Ships and stores flat or set up. There is no glue seam to impede the view of your product.

FOR specific information to fit your packaging job, write or phone TROTH • BRIGHT • PAGE, INC., Paoli, Pa. Phone: Paoli 2149-J. New York Office, 475 Fifth Avenue, New York 17, N. Y. Phone: MUrray Hill 3-1093.

Plants and people

phane Division, Olin Industries, Inc., New Haven, Conn., has been announced. Mr. Hartshorne has been with Olin Industries since 1934.

Mr. Hickman

Announcement has been made of the appointment of **R. Allan Hickman** to the newly created position of director of market research for **The Dobeckmun Co.**, Cleveland, Ohio, film converters. Mr. Hickman joined the Dobeckmun staff in 1946 and has been the San Francisco district sales manager for almost four years. The appointment is part of an expanding program of sales and product development at Dobeckmun.

Lawrence Wilkinson has succeeded **J. S. Snelham** as vice president in charge of finance for the **Continental Can Co.** Mr. Wilkinson has been a vice president of the company since September, 1951, prior to which time he had been director of the New York Civil Defense Commission. Mr. Snelham will continue to serve as a consultant to the chairman and president.

The Anchor Hocking Glass Corp., Lancaster, Ohio, has announced the removal of its Terre Haute, Ind., Package Division branch sales and service office to 704 Sycamore Bldg., 19 S. Sixth St., Terre Haute. **A. G. Swaney** is manager of the office.

The Kimberly-Clark Corp., Neenah, Wis., recently completed negotiations for a controlling interest in the **Munising Paper Co.**, makers of specialty papers. The property, located at Munising, Mich., involves about 75 acres of land and includes a pulp mill, a paper mill and a power plant. Total floor space is 333,000 sq. ft. Executive and sales offices are in Chicago. Other than directors, Kimberly-Clark expects to retain the same management, including **B. L. Trillich**, president. Kimberly-Clark is a manufacturer of cellulose wadding and converted products and of magazine and book papers. Acquisition of the Munising facilities places Kimberly-Clark in the fine and specialty paper fields.

The creation of two new sales divisions and the appointment of division managers has been announced by Kimberly-Clark. **R. B. Sawtell** has been named manager of a new merchandising division and **Abbott Byfield** will head a new product development division. These organization changes replace the present paper and wadding

• A Quality Product
• A Distinctive Clock Dial

By FOILCRAFT

A PERFECT SELLING TEAM

TELECHRON CLOCK DIAL BY FOILCRAFT

Whether it be a cheese or butter wrap, a box wrap for the holiday season, a novelty gift wrap, a merchandising display for your materials or a new label for your products; whatever the size and shape of your package, whatever the occasion, Foilcraft's brilliant, visible quality will compel the attention of the consumer.

Our complete designing and merchandising departments are at your disposal.

Write for samples and prices.

FOILCRAFT PRINTING CORPORATION

•••••WRAP-ADE'S GONE MILITARY!•••••

MODEL A HEAT SEALER FOR

SEALING BARRIER BAGS FOR MILITARY PACKAGING

14" jaw for sealing large size bags.

The Wrap-Ade Model A Heat Sealer automatically applies the correct amount of heat at the right pressure for the proper length of time necessary to make a secure and lasting seal to meet all military packaging specifications. Uniform pressure is applied over the entire surface of the jaws, while the heat and time factors are precisely adjusted to give the most efficient seal possible.

- LOW COST
- QUICK DELIVERY
- EFFICIENT OPERATION

Other Machines Available for all Packaging Materials.

wrap-ade

Write today for full information on this and other WRAP-ADE Packaging Machinery.

MACHINE CO., INC.

83 VALLEY STREET, BELLEVILLE 9, NEW JERSEY

PHONE—BELLEVILLE 2-6150-1

THIS IS ECO-PAC

you can FORM IT FILL IT SEAL IT.....automatically

Imagine an extremely low cost rigid container . . . with outstanding protective qualities and wide utility . . . that automatically is formed from pre-cut blanks, filled and sealed . . . at up to 120 per minute! That's ECO-PAC!

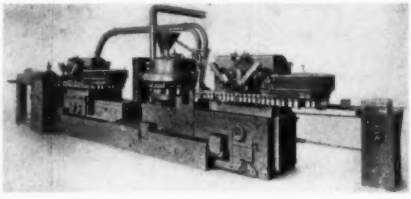
The entire creation and filling of ECO-PACS is accomplished by efficient high-speed machinery, designed and built by Jagenberg-Werke A.G., Dusseldorf (West Zone), Germany. Sixty filled and sealed ECO-PACS per minute are produced on the ECO-AUTOMATIC. And the ECO-DUPLEX produces 120 per minute!

Blanks for ECO-PACS can be made from a wide variety of materials ranging from light grade board to low MVTR laminations of paper and foil. Without modification, regular folding box equipment can make them inexpensively.

Eco Paks have proven themselves ideal for

frozen foods
powdered eggs
powdered milk
dry cereals
grain products
baby foods
detergents
soap powders
jams

Further details about ECO-PAKS and the machines which handle them will be furnished by the exclusive U. S. distributor, Alfred Hofmann & Co. *Showroom and Offices: 635 59th Street, West New York, N. J.*



The ECO-DUPLEX, a complete packaging plant.

ALFRED HOFMANN & CO.

Sole U.S. Sales and Service Agents for Jagenberg Labelling and Packaging Machines

Plants and people

merchandising divisions. The section will function under **John B. Catlin** as general marketing manager.

Brewster Stetson has been appointed advertising and sales promotion manager of the **Forbes Lithograph Mfg. Co.**, Boston, Mass. Mr. Stetson formerly was connected with the sales department in the company's New England territory.

Mr. Stetson

The Adex Manufacturing Co., paste and gum manufacturer established in Baltimore, Md., in 1879, has been purchased by New York interests. The new management has negotiated a long-time contract whereby Adex will have available the combined research, technological and service facilities of **Federal Adhesives Corp.** and **Federal Latex Corp.**, both of Brooklyn, N. Y. Officers of the Adex Mfg. Co. are **Arthur Mayer**, president; **Harold D. Stone**, vice president and resident manager; **Mortimer E. Stern**, secretary and technical director; **Philip M. Liner**, treasurer. Mr. Liner is also president of Federal Adhesives. Mr. Mayer is vice president and Mr. Stone is president of Federal Latex Corp.

Ideal-Packagings, Ltd., British packaging consultants and suppliers of packaging materials and machinery, have announced the removal of their plant and offices to 1 Shrewsbury Rd., London, N. W. 10, England.

Alfred J. Fava has been named sales director of the General Products Division of **American Machine & Foundry Co.**, New York. **J. J. Cranmore** has been named sales manager of the Lowerator Department of the firm's General Products Div.

The Counsel Machine Co., Inc., Wallington, N. J., manufacturers of elevating conveyors and other packaging machinery, have announced the appointment of **Justin C. Amato** as sales manager.

The Dewey & Almy Chemical Co., Cambridge, Mass., has announced the addition of **Laurence U. Kiely** and **Edward Winiarczyk** to the company's organic research staff. **Philip K. Isaacs** has joined the firm's adhesives laboratory.

Ross Tabor, formerly with the nylon division of DuPont, has joined Dewey & Almy's Cryovac division and will work with the production staff at the Lockport,

Wise Hen Finds Specs Ideal but Packages Need Buy-Appeal

We recently heard of a farmer from Postland Croland, England who fitted all his hens with rose-colored glasses. A dime-sized plastic lens makes his chickens think the world is rosey—lay more eggs. But package printers face a tougher problem—must put color on packages. They know quality packages demand the very best, choose IPI inks. Tops in quality, IPI inks give premium packages that extra buy-appeal.

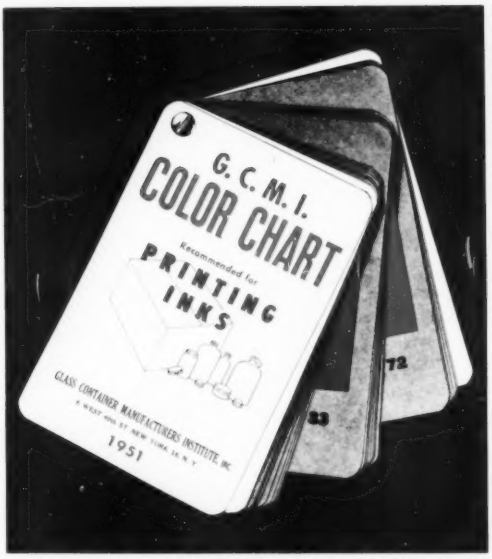
When Nature Goes Astray Color Control Saves the Day

Mother Nature does a pretty good job all by herself, but Cornell College of Agriculture recently discovered she could stand some help. First they measured the color of apple leaves as a guide to soil content. Now they find color of apples is a guide to proper harvesting time. Color control charts with special inks by IPI became a farmer's tool—end worry, give more leisure time, produce better fruit.

IPI, Gemtone, Vaporin, Vaposet, Anilox, Elixirin, Tri-Metal and Press-tested are trademarks of Interchemical Corporation.

INTERCHEMICAL CORPORATION • PRINTING INK DIVISION • 67 WEST 44th ST., NEW YORK 18 • ADDRESS DEPT. A

IPI HAS 'EM—MATCHES FOR ALL NEW COLORS SHOWN IN THE LATEST G.C.M.I. COLOR CHARTS



NEW G.C.M.I. CHART COVERS WIDER RANGE OF COLOR NEEDS

The latest 1951 G.C.M.I. color charts now offer forty popular colors—cover a range wide enough for most requirements. To distinguish new charts from the old, the reverse side of each new color swatch is dated. The charts are printed with oil inks, but IPI can also supply commercial matches for all colors in moisture-set and aniline or Anilox inks if customers desire. Next time you have G.C.M.I. colors specified, just send the numbers (right out of the chart) with stock samples and other data to your nearest IPI branch or service station.

Package Printers Can Order Inks by Number from nearest IPI Branch

Now package printers can get IPI inks to match all the new G.C.M.I. package colors. And they can get them from any one of IPI's 37 branches and service stations throughout the country. All of these colors may be ordered by number as shown in the color charts issued by the Glass Container Manufacturers Institute, Inc. Copies of the latest color chart may be obtained from Glass Container Manufacturers Institute, Inc., 8 West 40th Street, N. Y. C. Price to package printers is $1.00 a copy—covers production and shipping costs.

Colors in the new charts are those found most popular for printing corrugated boxes for glass containers. They are also said to be time-tested for legibility against the characteristic color of corrugated board. The effect of backgrounds on printed colors is of great importance in package printing.

Charts Developed for Better Color Control

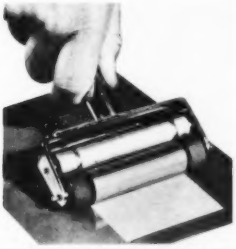
The G.C.M.I. developed these charts to give the industry better standards for color control in production. The use of these and other visual standards helps to prevent too much "color drift" from original colors due to stock variations. IPI also recommends that package printers use "tolerance curves" (determined with the Recording Spectrophotometer) for maintaining color standards in package printing.

SAVE TIME AND MONEY PROOFING ANILINE INKS WITH NEW HAND PROOFER

The Anilox Hand Proofer is ideal for all Anilox and aniline color proofing, especially on cellophane, glassine, and other non-porous stocks. It is the first hand-proofing device for aniline inks and was developed through the cooperation of IPI and Paper Machinery and Research, Inc.

The unit consists of one solid rubber roll and one chrome-plated, engraved, contacting Anilox or Evenflo roll. The Anilox or Evenflo roll is engraved with 165 depressions per inch to measure the proper quantity of ink for average work. It will also serve for users of aniline-type presses lacking engraved rollers.

Extra engraved rollers, which can be interchanged in the testing unit, are available. They are made with 75, 100, 125, 150, and 200 depressions per inch. Proofer is $15; extra rolls are $5 each.



Anilox Hand Proofer is ideal for proofing Anilox and aniline inks on cellophane and other non-porous stocks. Chrome-plated, engraved contacting roll distributes ink evenly to solid rubber roll.

Write IPI today for your free copy of Anilox Hand Proofer leaflet and instruction sheet.

IPI INKS FOR ALL PACKAGE PRINTING

There are IPI inks to meet every package printing demand—Gemtone Process Inks—Standard Process Inks—Vaporin heat-set inks—Vaposet moisture-set inks—inks for corrugated and fibre board—Anilox Inks for Aniline type presses—wash-out bag inks—Press-tested Offset Inks—inks for foils, glass and plastics—Metal Decorating Inks—Elixirin Inks for wet-ink varnishing. Also a complete line of Litho supplies and plates including the IPI Tri-Metal Plate.

Advertisement

Packaged to Pour and Store with SEAL-SPOUTS*

They're METAL!

Any type packages of free-flowing products for home use can be made better, more practical packages by applying SEAL-SPOUTS right in the production line. SEAL-SPOUTS are the pioneer, metal, pouring spouts used by many manufacturers of free-flowing products. Join the leaders who realize the extra merchandising value of packages with SEAL-SPOUTS.

*T. M. Reg. U.S. Pat. Off.

EASIER TO POUR

EASIER TO OPEN

EASIER TO CLOSE

Your Inquiry Is Invited

SEAL-SPOUT CORPORATION
363 Jelliff Ave., Newark 8, N. J.

Plants and people

N. Y., plant, which produces Cry-O-Rap plastic bags for packaging meats, poultry, fish and other foods. A second Cry-O-Rap plant recently began production at Cedar Rapids, Iowa.

K. C. Zonsius has been appointed director of advertising at **The Goodyear Tire & Rubber Co.**, Akron, Ohio, to succeed the late **J. K. Hough.** Mr. Zonsius, manager of automobile-tire sales for the company since 1935, will be succeeded by **W. E. Still,** who is currently manager of farm-tire sales. **H. M. Caruthers,** now in charge of industrial-tire sales, will be manager of farm-tire sales, succeeding Mr. Still.

Mr. Zonsius (left) and Mr. Kilgore

Goodyear has announced the appointment of **Robert H. Kilgore,** assistant manager of the Films and Flooring Division, to manage field sales. The division embraces the Pliofilm, vinyl film and flooring departments. Additional sales representatives are being assigned to handle specific products covered by the division.

Plastic Manufacturers, Inc., Stamford, Conn., has announced a change in its corporate name to **PM Industries, Inc.** The change in no way affects the company's capital structure or personnel.

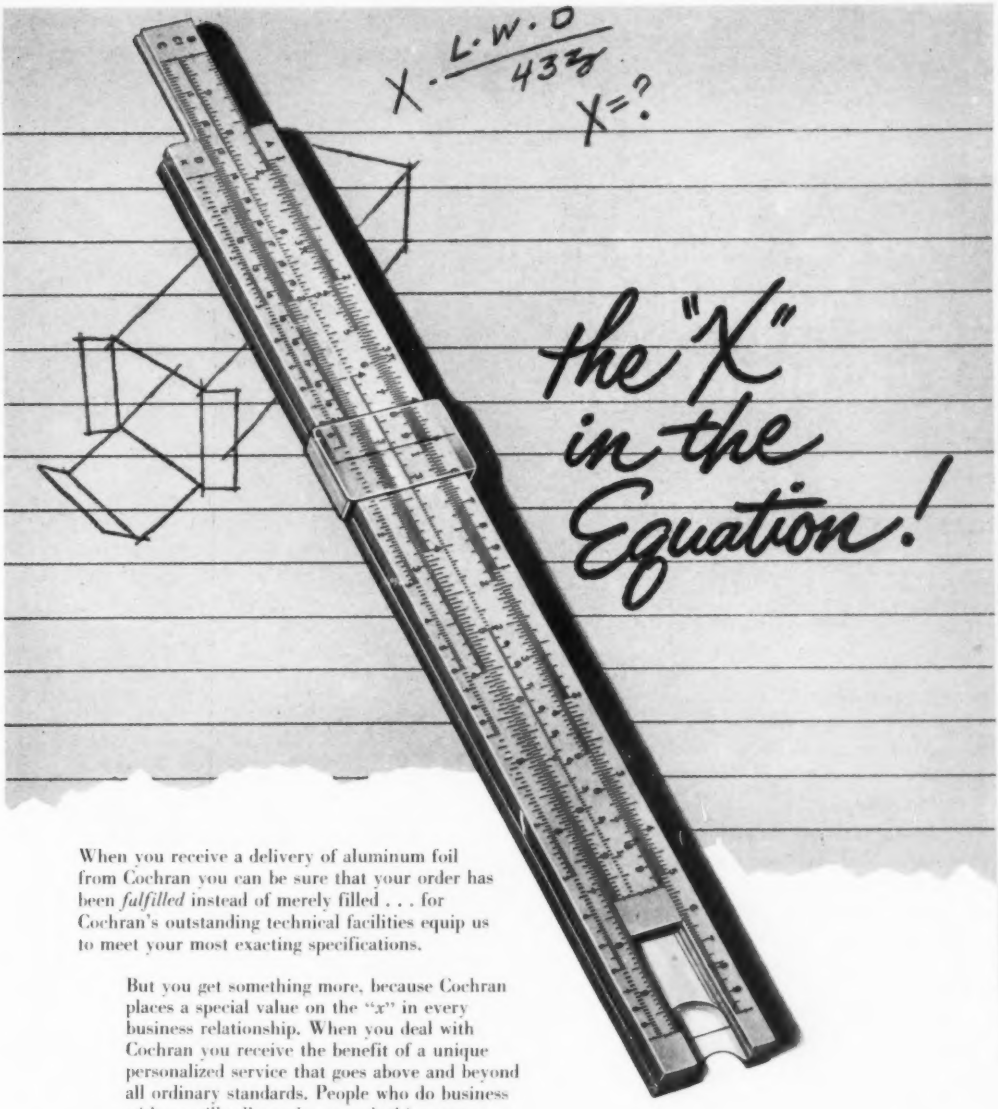
Eugene J. Moore has been elected as vice president of **Richford Corp.,** New York.

Dickson W. Pierce has joined the **John T. Raisin Corp.,** San Francisco, manufacturers of decorative foils, color papers and folding boxes.

Extruders, Inc., Hawthorne, Calif., have appointed **William B. Sander** as vice president and general manager.

The W. E. W. Container Corp., manufacturers and printers of cellophane, glassine and combination bags, announce removal of their offices and plant to 775 Lexington Ave., Brooklyn, N. Y.

Celanese Corp. of America has announced the appointment of **Leo Birzstein** as field processing engineer for its Plastics Division. He will assist Celanese customers throughout the country on questions dealing with the storage, handling and proc-



When you receive a delivery of aluminum foil from Cochran you can be sure that your order has been *fulfilled* instead of merely filled . . . for Cochran's outstanding technical facilities equip us to meet your most exacting specifications.

But you get something more, because Cochran places a special value on the "*x*" in every business relationship. When you deal with Cochran you receive the benefit of a unique personalized service that goes above and beyond all ordinary standards. People who do business with us will tell you how much this means.

Cochran FOIL COMPANY

INCORPORATED — LOUISVILLE 10, KENTUCKY

SPECIALISTS IN ALUMINUM FOIL

SALES OFFICES:	714 Wrigley Building, Chicago 11, Illinois	632 Fisher Building, Detroit 2, Michigan	238 West Wisconsin Avenue, Milwaukee 3, Wisconsin	500 Fifth Avenue, New York 18, N. Y.	Hippodrome Building, Cleveland 15, Ohio

if you're proud of your product...
use the distinctive new
"R" DESIGN CAPS

Handsome new Artmold* "R" design caps do a lot to improve the appearance of your package. They add an extra measure of eye-appeal to any container—make your product look better, sell better.

"R" design caps are perfectly suited to a variety of applications. Some have plain tops; others have open tops for use with droppers. Still others have a solid well in the top for holding a nail-polish quill brush. Another has a hollow well—plain or threaded—to take a glass rod.

Artmold "R" design caps are available in all popular sizes. Every size is precision formed—to feed easily into capping machines and provide a safe, sure seal for your product. "R" design caps are chip resistant and crack resistant. They have a bright, durable luster and can be made in a wide choice of non-fading colors to suit the color scheme of your container.

We'll be glad to send you free samples and prices. Just write to Armstrong Cork Company, Glass and Closure Division, 5902 Prince Street, Lancaster, Penna.

* REG. T. M.

Western Representative: I. F. Schnier Co., Inc. San Francisco 7 and Los Angeles 12

ARMSTRONG'S *Artmold* PLASTIC CAPS

Packaging Headquarters for Armstrong's Glass Containers, Embossed-Top Corks, Metal Caps, Crowns, and Du Pont "Cel-O-Seal" Bands

Plants and people

essing of acetate plastic. His services will also include consultant work with machinery manufacturers on the adaptation of existing machinery for acetate film and the design and development of new-type machinery and attachments for such film.

Walter J. A. Connor has been appointed general sales manager for the **Celluplastic Corp.**, Newark, N. J., manufacturer of plastic containers. Mr. Connor is widely experienced in the plastics field, having formerly been with the Celanese Corp. and Koppers Co.

Mr. Connor

The Quality Pad Co., Inc., has taken over the business of **Quality Pad, Inc.**, Gardner, Mass. **Maclean Williamson** is president of the new company, which manufactures cushioning and protective pads, chick box pads and sleeving. **Henry J. Opgenorth,** founder of the old company, will be associated with the new firm, devoting most of his time to the development of new types of pads and pad-making machinery.

William McCaw Berry has joined the New York sales staff of the **Rode & Brand Division** of the **Stecher-Traung Lithograph Corp.**, Rochester, N. Y., manufacturer of lithographic displays.

Union Bag & Paper Corp., New York, has announced the appointment of **Alexander Calder, Jr.**, as executive vice president and general manager. Previously he was vice president and assistant to the president. **H. S. Daniels,** who will shortly complete his services as consultant to the OPS in Washington, will take over direction of all company sales as executive vice president and general sales manager. **James L. Knipe** has resigned from Union Bag as vice president and general sales manager, but will continue his association with the company as a director.

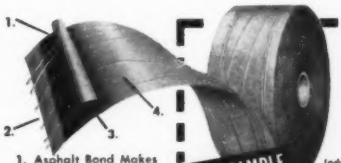
Melvin J. Henry has been appointed general sales manager of the **United Lacquer Mfg. Corp.**, Linden, N. J. Mr. Henry, who was formerly with R. H. Macy & Co., will supervise distribution, merchandising, market development and customer service for United Lacquer.

S. J. Marsh has been named industrial products salesman in the Western Massachusetts and Connecticut territory for the **Wood Conversion Co.**, manufacturers of cushioning and insulating products. **Har-**

'Yet 30% Stronger Because
Angier SNAKE TAPE *is Reinforced*

ACCEPTED for parcel post, express and truck shipments, *this "2 strips — not 6"* method of sealing saves *more* than gummed tape and sealing labor. Angier Snake Tape is *reinforced* — therefore, STRONGER! Cartons sealed with only TWO strips of Snake Tape are proved *30% stronger* than cartons sealed with SIX strips of ordinary gummed tape.

Why don't *you* eliminate damage claims due to tape failure — save on tape requirements — cut sealing labor two-thirds! For full information and samples, mail coupon now!



1. Asphalt Bond Makes It Waterproofed.
2. Reinforced for Extra Strength.
3. Double Layer of Selected Kraft.
4. Best Animal Glue for Perfect Seal.

SIX WIDTHS IN 100 yd. rolls. Easily dispensed in any "cut-off" type machines.

Angier CORPORATION
Framingham 11, Mass.
Industrial Packaging Manufacturers & Engineers Since 1895
Representatives & Distributors in Principal Cities

( ) FACTS, literature, prices. ( ) FREE SAMPLE — 25 YD. test roll. ( ) DEMONSTRATION. Have representative show how Angier Reinforced SNAKE TAPE can seal our packages better — at less cost. (Attach coupon to letterhead or write name, title, address in margin below.)

Considering cost, convenience and packing output, PROTEX EXCELSIOR products are the most efficient cushioning money can buy. Properly used, they can reduce your shipping losses and lower your packing costs. Without cost or obligation we will gladly send one of our qualified packing engineers to your plant. He will help you analyze your methods and materials and create time and money saving packing.

NATIONWIDE DISTRIBUTION FROM 23 LOCATIONS

AMERICAN EXCELSIOR CORPORATION

1000-1020 NORTH HALSTED STREET • CHICAGO 22, ILLINOIS

AMERICAN FOREST PRODUCTS CO.
30th & Thompson Streets
Philadelphia 21, Pa.

ATLANTIC EXCELSIOR CO.
560 W. 29th Street
New York 1, N.Y.

EXCELSIOR SUPPLY CO.
E. 40th St. & King Ave.
Cleveland 14, Ohio

Wider Distribution Is Always A Problem

but ...Dow Corning's Sight Savers eyeglass cleaners are now winning vastly greater distribution, thanks to this colorful stand-up display. Previously, Sight Savers had been sold in bulk. This display, which holds 12 packets in vertical array, makes this small item visible from every angle. It also invites customers to serve themselves, thus boosting impulse sales. If your product could benefit from this kind of response, have your next display...

Sales Engineered by
CONSOLIDATED
Lithographing Corporation
MEMBER OF THE POINT OF PURCHASE ADVERTISING INSTITUTE
Main Office and Plant: Glen Cove Rd., Carle Place, L. I.
Sales Offices in Philadelphia, Chicago, Louisville and Tampa

Plants and people

ley Williams has been named to a similar position in the New York area, replacing **R. L. Stewart**, now district manager for the company in Buffalo, N. Y.

The Sherman Paper Products Corp., Newton Upper Falls, Mass., has announced the appointment of **R. C. Owens** as director of product development, with offices in New York City. His new position with the Sherman firm will be in the administrative, creative and distribution fields.

Mr. Owens

The new $350,000 multiwall paper bag plant of the **Hammond Bag & Paper Co.** at Pine Bluff, Ark., is now in service. The one-story structure, with its 67,500 sq. ft. of floor space, was built to replace a former installation which has been turned over for use by the Army Chemical Corp. The new plant is completely modern in construction and has made possible a substantial increase in Hammond's production facilities.

J. Thomas Restin has been appointed salesman with **The Gardner Board & Carton Co.**, Middletown and Lockland, Ohio. Mr. Resin will work out of the Middletown office.

Kaglu Corp., adhesives manufacturers of Barberton, Ohio, announce the appointment of **Keith E. Comey** as vice president and general manager.

A. F. Steffen, formerly **Swift & Co.**'s training director, has been appointed sales promotion manager for the company's General Adhesive Products Dept. He will have charge of sales personnel training, advertising and sales promotion activities. Mr. Steffen is known for his presentation of the Americanism program, "This Is Our Problem," of which he was co-author.

The National Container Corp. has announced the opening of a new $1,000,000 plant for the manufacture of corrugated shipping containers. This new plant, a completely integrated box-making operation, represents the 12th such unit for the company, which is also constructing a $25,000,000 500-ton-per-day kraft pulp, board and paper mill near Valdosta, Ga. General manager at the new plant is **Thomas M. Holden. Chandler H. Jones** is sales manager and **James J. Parks** is plant manager.

William Bofenkamp has been appoint-

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"Our product, Super Charge Dog Candy, presented very special packaging problems. It was necessary that we get full preservation of the important ingredients of the product. Since Super Charge is an oily, soft product, the package had to protect the carton from becoming soiled and, also, had to be handled quickly and easily during production. Your bags were able to meet these requirements."

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Newton Eudaly
Factory Superintendent

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Cloth Foil Bags Jan-P-131 Method 11

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Cellophane Bags

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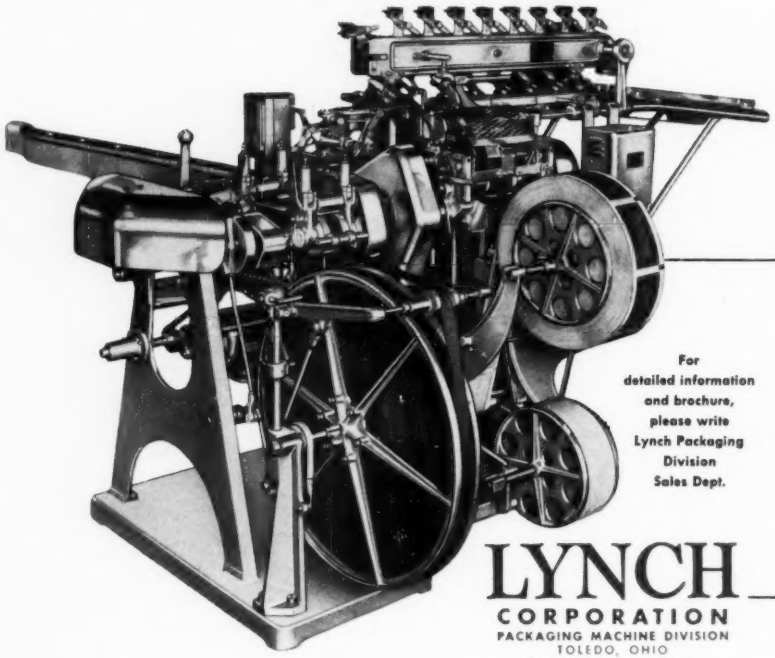
Also many items in other fields.
Featuring : Boat or card or no card wrap.



For detailed information and brochure, please write Lynch Packaging Division Sales Dept.

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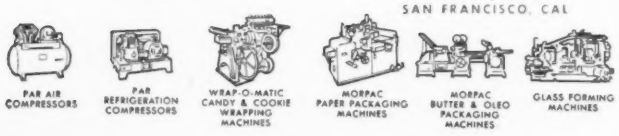
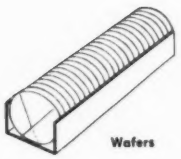
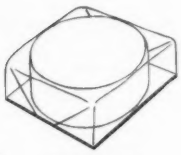


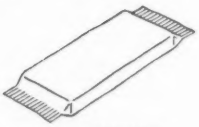
PAR AIR COMPRESSORS | PAR REFRIGERATION COMPRESSORS | WRAP-O-MATIC CANDY & COOKIE WRAPPING MACHINES | MORPAC PAPER PACKAGING MACHINES | MORPAC BUTTER & OLEO PACKAGING MACHINES | GLASS FORMING MACHINES



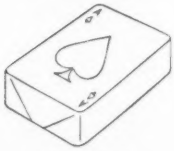
Wafers



Cup or Mound

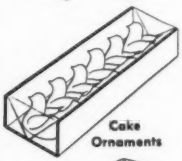


Crimped End Bar



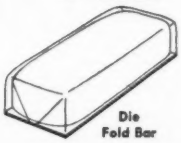
Playing Cards

Cigar Pack

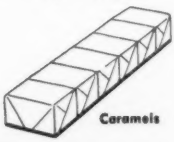


Cake Ornaments

Two Piece Bar



Die Fold Bar



Caramels

Plants and people

ed sales manager of National Container's Twin Cities sales office in St. Paul, Minn. Mr. Bofenkamp's promotion is part of an expanded sales and distribution program inaugurated by the company.

The Hilton-Hawley Co., Cincinnati, Ohio, printing-ink manufacturer, is now located in a newly built plant at Gailbraith Rd. and Lockland Expressway. The new plant is located on an eight-acre tract and occupies more than 22,000 sq. ft. of space.

Milton Granne has joined **Einson-Freeman Co., Inc.,** Long Island City, N. Y., lithographers, as head of the firm's brewery marketing activities. Mr. Granne was formerly with Anheuser-Busch and the Blatz Brewing Co.

The Chemical Division of **Celanese Corp. of America** announces the opening of new Midwest district offices in Chicago at 101 E. Ontario St. **Thomas G. Davis,** district manager, Chemical Division, and **G. J. Boyer,** Midwest district representative, are located in the new office.

States D. Tompkins has been appointed vice president of the **Paperboard Laminating Corp.,** Norwalk, Conn. Mr. Tompkins has had over 20 years of experience in the foil conversion industry, having been with Reynolds Metals and United Board & Carton Corp. His headquarters will be at the firm's New York offices, 160 Varick St.

J. Rabinowitz & Sons, Inc., Brooklyn, N. Y., have acquired the firm of **Hagerty Bros. & Co.,** glass container distributors. **Joseph F. Kelly** will continue to operate Hagerty Bros. as a separate division of the Rabinowitz company, with offices at 2 Hanson Pl., Brooklyn.

International Printing Ink has opened a new branch office and service station at 117 W. Griffith St., Charlotte, N. C., to serve printers and lithographers in the Piedmont area. **Morris Wachtel** is in charge of the IPI Charlotte branch.

The Mason Envelope Co., Inc., New York, has appointed **Charles S. Grey** as head of its advertising, sales promotion and customer relations division.

The plant and offices of the **Gordon Plastic Products Corp.,** makers of displays and packages, have moved from Ossining, N. Y., to Lynn, Mass. The new location, 685 Washington St., will afford an increase in production of more than double the former capacity, according to **J. M. Gordon,** president. **Benjamin Daniels** and **Harold Silverman** are vice president and

$182,000,000 LOST!
IN DAMAGED SHIPMENTS SINCE 1948
according to the Association of American Railroads
IS YOUR COMPANY CONTRIBUTING
TO THIS EXPENSIVE 'JUNK HEAP'?

Think a minute before you say "no." Shipping losses often hit at a level where management doesn't see them.

The full extent of such losses cannot even be measured. For damaged goods are only part of the story. Frequently there are far greater losses in good will and customers.

Just how much money is slipping away from your company through this constant "erosion of profits"? The answer depends to a large extent on the closure method your shipping department employs in packing merchandise for shipment.

Then why not make sure your company uses the closure method that has been established by impartial research as the *safest way* of sealing a package for shipment? Why not profit by the recent findings of Container Laboratories, Incorporated, of New York who recently submitted the six most widely used closure methods to rigid, impartial, comprehensive tests? Each test simulated actual conditions met by shipments in transit . . . and *in every test* GUMMED SEALING TAPE *proved best.*

Would you like to have the head of your shipping department see the results of these tests? We shall be glad to see that he is supplied with literature describing them and telling HOW TO SEAL IT RIGHT WITH GUMMED TAPE. There's a brochure, too, for executives that tells the complete story. Just take a moment and fill out the coupon.

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Please send me brochure for executives.
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Better Aniline Printing

by incorporating shellac in your aniline inks

By formulating aniline printing inks with Mantrose Quality shellac you can obtain the following characteristics:

Better adhesion — Improves the retention of pigment by film, foil and paper. Increases scuff and scratch resistance.

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#65 refined extra white bleached shellac. For clear or transparent inks. Contains no wax.

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SEND FOR SAMPLES. A sample of the above grades will be sent upon inquiry on your business letterhead.

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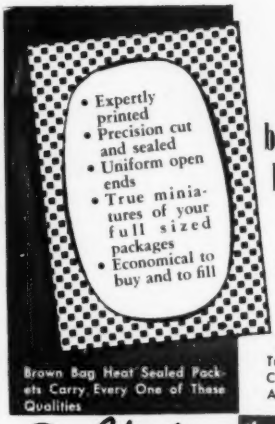
Quality SHELLAC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Brown Bag Heat Sealed Packets Carry Every One of These Qualities

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Serving as 50 year old packeting specialists to food, drug, cosmetic, soap, and sanitary chemical leaders such as: Nestle's, General Foods, Borden's—United Drug Company, Tussy, Sutton—Wrisley, Cuticura, Colgate-Palmolive-Peet and American Chemical Paint.

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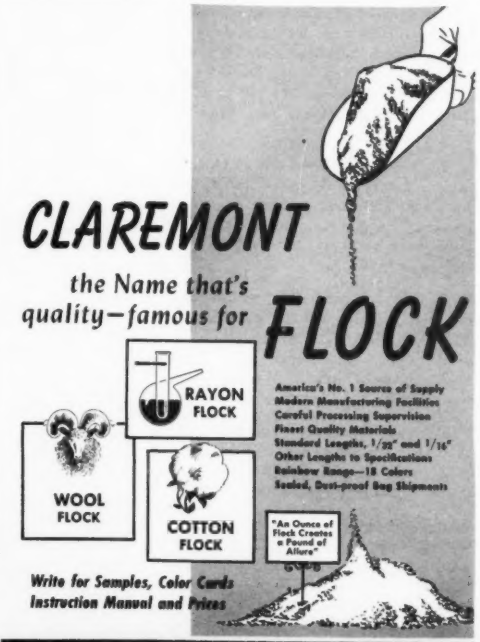

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STOP JARS AND JOLTS
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USE THESE NEW
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WRAP PROTECTORS

This FREE booklet
Tells you how!

It fully describes Industry's newest, low cost flexible cushion protective wrap materials...

SOF-RAP

A completely flexible multi-wall krinkled cushion material that provides stretch and permits "slippage" . . . safeguarding against abrasion damage from friction and chafing. Soft, resilient inner cushion is strip-laminated to a tough, durable protective outer-wrap that resists tears and punctures — ideal for exterior-interior packaging. SOF-RAP conforms to any shape.

Krepak...

A durable, tough, single-ply krinkled interior wrap of blanket-like softness. Protects against shock and vibration—prevents surface mars and scratches—provides absorption and insulation. KREPAK conforms to any shape without tear or breakage no matter how irregular the shape.
Write for this booklet today.

NICHOLS
PAPER PRODUCTS COMPANY
GREEN BAY · WISCONSIN

Plants and people

treasurer, respectively, and will handle purchasing, production and sales. Mr. Gordon will devote his efforts to the creation and development of new ideas.

During 1952, its 108th year in business, the **Brett Lithographing Co.**, Long Island City, N. Y., will issue a series of folders depicting its various services in color lithography, equipment, personnel and clients served during the firm's history.

R. Nelson Hickman, for eight years engineer and sales manager with **Hornney & Co.**, packaging and bottling engineers, New York, has resigned his position to take an extended vacation.

The Fulton Bag & Cotton Mills, Atlanta, Ga., has announced the retirement of **Louis J. Jones**, for many years sales manager of the company's St. Louis plant. His successor is **A. C. Jones**, his nephew, who has also been connected with Fulton Bag in St. Louis for some time.

Harold S. Labombarde, general manager and treasurer of the **International Paper Box Machine Co.**, Nashua, N. H., died at the New England Center Hospital in Boston after an illness of two months. Mr. Labombarde joined the International Paper Box Machine Co., which was founded by his father, in 1916. Many patents were issued to him covering various types of paperboard converting machines. At the 150th anniversary of the founding of the U. S. Patent Office, he was selected as one of the 20 foremost living inventors in the United States.

Maynard G. Fessenden, treasurer of the **Ace Carton Corp.**, Chicago, and the **Ace Folding Box Corp.**, White Pigeon, Mich. died on Jan. 1 at the Mercy Hospital, Chicago. Mr. Maynard had long been active in the affairs of the Folding Paper Box Assn. of America, and had served as president of that group for two years. Mr. Fessenden was also a prominent golf leader. He was 59 years of age.

David G. Bloom, vice president and director of the **Crown Cork & Seal Co., Inc.**, Baltimore, died suddenly on Nov. 25th in Atlanta, Ga. Mr. Bloom was 59 years old.

Robert F. Engelhardt, superintendent of the **United Board & Carton Corp.**'s Urbana, Ohio, papermill, died suddenly on Dec. 10th as a result of asphyxiation due to a faulty gas furnace in his hunting cabin in Michigan. Mr. Engelhardt was 62 years of age.

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TAGS
SEALS
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From initial design — to completed labels and tags. We make our own dies and engravings — do our own embossing, stamping, printing and finishing. For distinctive packaging call Cameo today!

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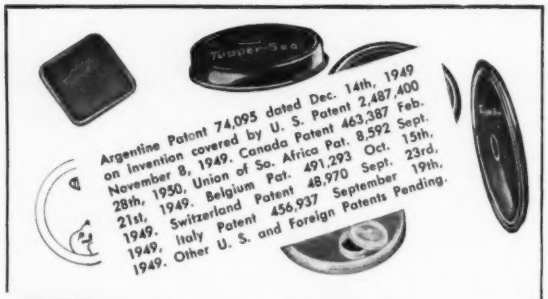
Tupper Seal, air and liquid tight flexible covers fit, and are included in the sets of all Tupperware Canisters.

The Tupperware 50 oz. Canister is "standard equipped" with the Tupper Seal, air and liquid-tight flexible Pour All cover.

The Tupper Seal, air and liquid-tight flexible Pour All cover is used on every Tupperware 20 oz. Canister.

The Tupper Seal, air and liquid-tight, Pour All cover as a cover for 46 oz. cans; Tupperware Sauce Dishes and other containers of metal, glass or pottery. Foods easily dispensed without removing entire cover.

The Tupperware Wonder Bowls are usually fitted with Tupper Seal, air and liquid-tight covers.



Argentine Patent 74,095 dated Dec. 14th, 1949 on Invention covered by U. S. Patent 2,487,400 November 8, 1949. Canada Patent 463,387 Feb. 28th, 1950, Union of So. Africa Pat. 8,592 Sept. 21st, 1949. Belgium Pat. 491,293 Oct. 15th, 1949. Switzerland Patent 48,970 Sept. 23rd, 1949. Italy Patent 456,937 September 19th, 1949. Other U. S. and Foreign Patents Pending.

TUPPER! Seals

air and liquid-tight, flexible covers for Tupperware Tumblers, Canisters, Wonder Bowls, Cereal Bowls and many another container of glass, metal and pottery, the contents of which it is desired to keep fresh and wholesome.

TUPPER!

FORMAL NOTICE! 9th November, 1949

EXCLUSIVE!

U. S. Patent #2,487,400

The Tupper Corporation has attained a position of leadership in this industry by incurring great expense and expending painstaking effort in the development, design, manufacture and exploitation of its many world-known products.

The Tupper Corporation further has anticipated the inevitable attacks to which leadership is subject and has taken measures provided by law to preserve the creative rights to its products, methods and design by patent protection both in the United States and abroad.

Tupper Seals for Tupperware shown in this advertisement are just a few of the forms covered in this manner and are specifically covered by U.S. Patent #2,487,400.

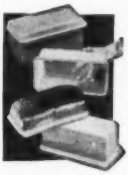
Only the Tupper Corporation, by U.S.Patent #2,487,400 has the right to make, use and vend container closures in connection with any and all types of containers throughout the United States and its territories as covered by the claims of the Patent.

Tupper Corporation will protect, according to law, the exclusive rights above granted

TUPPER CORPORATION

There's a Tupper Seal, air and liquid-tight flexible cover for Tupperware 2, 5, 8 and 12½ oz. Tumblers too, and these Tupper Seal, covers fit many other containers of metal, glass and crockery.

The Tupper Seal, air and liquid-tight flexible Por Top cover, specially designed as a dispensing cover for specified diameters of containers holding foods such as syrups, salad dressings, catsup.



The cover of the Tupperware Bread Server which serves as a bread tray also is designed to give similar results as Tupper Seal, air and liquid-tight Flexible covers. Keeps contents fresh as no other such container.

When equipped with Tupper Seal, air and liquid-tight, flexible covers, Tupperware Cereal Bowls serve many another purpose.

The Tupper Seal, air and liquid-tight flexible cover made for Tupperware 8 oz. Tumblers also fits and is sold with all Tupperware Funnels as a base when funnels are used as storage containers.

TUPPER CORPORATION

Manufacturers of — CONSUMER, INDUSTRIAL, PACKAGING AND SCIENTIFIC PRODUCTS

FACTORIES: Farnumsville, Mass., and Cuero, Texas **New York Show Rooms 225 Fifth Ave.**

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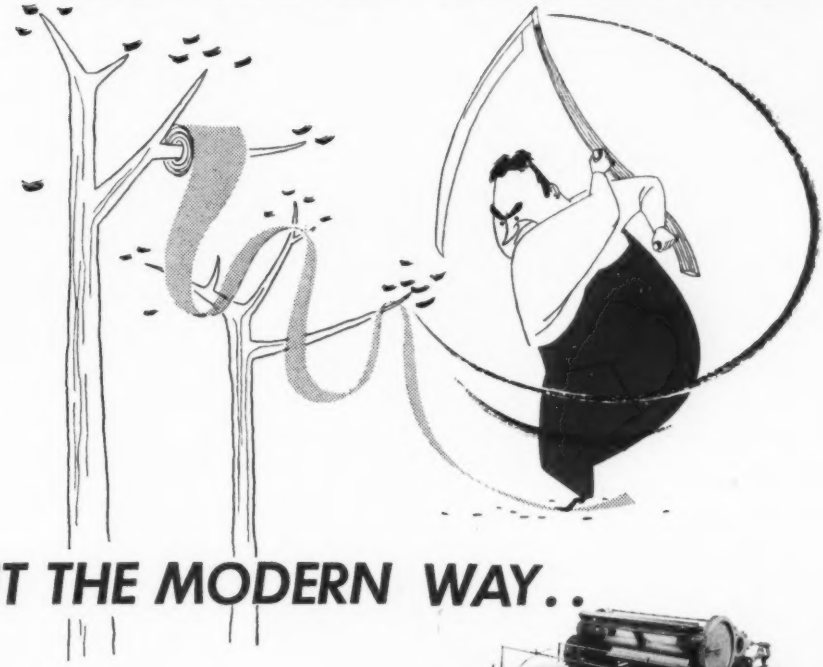
REAP MORE PRODUCTION



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A scythe, like scissors, is a good cutter for the kind of job it must do. Your cutting job, however, must meet modern production demands for speed, accuracy and economy . . . and, for *you* the most modern, efficient and productive answer is a Beck Sheeter. It cuts any material from rolls any time, any quantity. Sheets to fit your exact size specifications. Eliminates cutting charges. Many other advantages, too. Get the facts today.

CHARLES BECK MACHINE CORPORATION
406 N. 13th Street BECK Philadelphia 8, Pa.

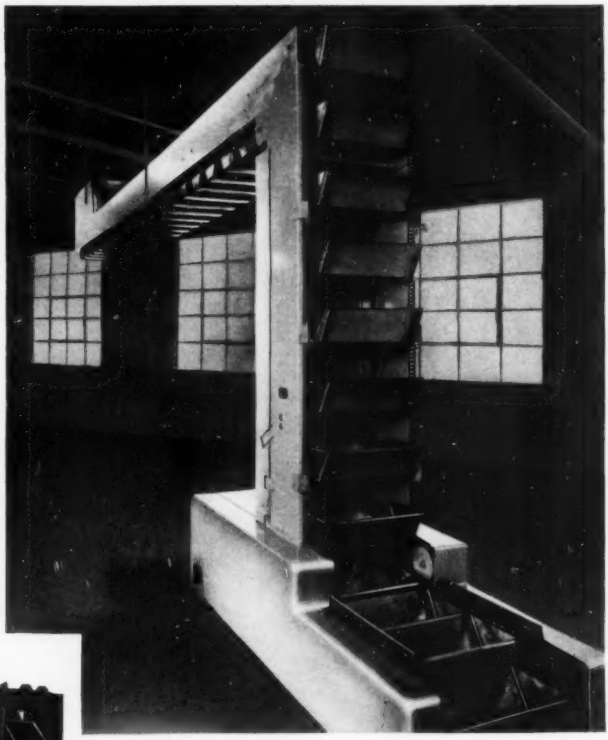
New Model 2090 B

Robo-Lift ELEVATING CONVEYOR

DELIVERS 35 Cubic Feet per Minute

THE NEW Model B 2090 Robo-Lift masters the problems usually connected with moving and elevating large quantities of high-bulk factor products. Gentle delivery means minimum breakage—even of most delicate products. Delivery is at right angle to direction of travel. Completely spill-proof. Reduces labor costs. Simplified cleaning and maintenance. *Write for details.*

Packaging's Uphill Pipeline



This high capacity Model B 2090 Robo-Lift was recently placed in operation by a large mid-west cereal manufacturer. Height: 10 feet. Travel: 25 feet.

Model A 1070 Robo-Lift puts your product where you want it at a rate of 3½ cubic feet per minute. Occupies just 24" x 66".

ROBO-LIFTS CAN BE USED FOR

drugs	grains
detergents	hardware
chemicals	plastics
foodstuffs	and many other
confections	free-flowing products

COUNSEL MACHINE COMPANY INC.

8 Hathaway Street, Wallington, New Jersey

For distinctive design in glassware

–ARMSTRONG

Our master craftsmen are skilled at producing glassware that is outstanding in both performance and design. These fine-quality containers are engineered to rigid specifications. Their precision finish and uniform contours help keep packing lines working efficiently . . . downtime and rejects are reduced to a minimum. In addition, the distinctive appearance of Armstrong's Glass Containers can make your product look better, sell better. Packers tell us this durable glassware gives long, dependable service in the field.

Your near-by Armstrong representative will be glad to give you further details on our complete packaging service. Get in touch with him today or write direct to Armstrong Cork Company, Glass and Closure Division, 2302 Prince Street, Lancaster, Pennsylvania.

Packaging Headquarters for Metal and Artmold Plastic Caps, Corks, Crowns, and DuPont "Cel-O-Seal" Bands

For your information

Newly elected president of the **Can Manufacturers Institute** is **Richard P. Swartz,** president of the Crown Can Co., Philadelphia. He succeeds **Ralph C. Rosecrance** of the J. L. Clark Mfg. Co. **H. Ferris White** and **Clifford E. Sifton,** secretary and treasurer, respectively, were re-elected. **Harold H. Jaeger** continues as director of CMI's Marketing Bureau. The following were elected to the board of governors: **Richard Amundsen,** The Texas Co.; **Gen. Lucius D. Clay, T. C. Fogarty** and **P. E. Pearson,** all of Continental Can Co.; **L. W. Graaskamp, W. C. Stolk** and **R. C. Taylor,** all of American Can Co.; **F. J. Costello,** Federal Tin Co.; **G. M. Doliner,** Eastern Can Co.; **E. F. Euphrat,** Pacific Can Co.; **D. M. Heekin,** The Heekin Can Co.; **G. A. Milton,** Geo. A. Milton Can Co.; **J. Howd Phelps,** Phelps Can Co.; **R. S. Solinsky,** Cans, Inc.; **David Stern,** Stern Can Co.; **H. K. Taylor,** Geo. D. Ellis & Sons, Inc.; **C. L. Thompson,** National Can Co.; **V. K. LeComte, V. K.** LeComte & Co.; Messrs. Rosecrance and Swartz.

Mr. Swartz

The Container Corp. of America, Chicago, the **Food Machinery & Chemical Corp.** and **The Hinde & Dauch Paper Co.,** Sandusky, Ohio, have each been awarded a Certificate of Management Excellence for the year 1951 by the **American Institute of Management,** New York. Only 298 firms in the U. S. and Canada were deemed by the Institute eligible to receive the designation. This is the second time the companies have been cited as "excellently managed" by the Institute. Companies are judged in 10 separate fields: economic function, corporate structure, health of earnings growth, fairness to stockholders, research and development, directorate analysis, fiscal policies, production efficiency, sales vigor and executive evaluation.

Sixteen representatives of the leading national associations in the broad field of advertising, including **The Point of Purchase Advertising Institute,** met recently to explore whether the national advertising and media associations can work out closer cooperation in legislative matters. This is the first time that such a meeting has ever been held. All associations will continue to spearhead their own fights against any unfair legislation affecting them, but it was agreed that a loose affiliation of these groups would be beneficial. Benefit should result from alerting them all on what affects advertising and from sharing the best information on what is being done or should be done to get prompt action at the proper time. The meeting was called by **Elon G. Borton,** president of the Advertising Federation of America and a member of POPAI's board of directors. It was agreed that AFA is the logical clearing house for this information and a committee was appointed to work out more specific details.

The Super Market Institute membership as of Dec. 6, 1951, was 556 companies, operating 6,336 stores, of which more than 4,000 are supermarkets. Total annual business done by the membership now exceeds four billion dollars, according to the Institute's estimate. SMI redefined a supermarket this year as a store doing a minimum of $400,000.

New officers of the **Society of Industrial Packaging and Materials Handling Engineers,** elected to serve through 1953 are: board chairman, **Paul O. Vogt,** General Electric Co.; vice chairman, **Ray C. Sell,** Koehring Co.; president, **Stanley Price,** Western Electric Co.; executive vice president, **J. L. Ware,** Sears, Roebuck & Co.; vice presidents, **C. C. Cunningham** of North American Aviation, Inc., **H. E. Brill** of Mid-States Container Corp. and **I. E. Thomas** of Ford Motor Co.; treasurer, **M. A. Grogel,** Fairfield Paper & Container Co.; secretary, **A. S. Roberts,** Insurance Co. of North America.

R. Chester Reed of the Texas Co., has been appointed chairman of the program committee for the 14th Annual Forum of the **Packaging Institute,** to be held at the Hotel Commodore, New York, Oct. 20-22, 1952.

A Standard Color Guide, designed to help the buyer of printing and the printer in selecting colors, has been issued by **Sigmund Ullman Co.,** division of **Sun Chemical Corp.** This pocket-sized specimen book shows 48 full-strength colors printed in a solid and screen values. Also shown are 20 popular tints made from transparent formulas which can be made to satisfy optional variables such as opaque, semi-transparent, etc. The guide may be obtained by writing to any Sigmund Ullman office.

The McLaurin-Jones Co., Brookfield, Mass., has established a $500 annual scholarship in the Paper Engineering Course at Lowell Textile Institute, Lowell, Mass. The scholarship is the first to be made available to the Paper Engineering Department by an individual company. In awarding the scholarship, first preference will be given to employees of McLaurin-Jones and their sons and, secondly, to graduates of the local Brookfield and Ware High Schools. The fund will be called the McLaurin-Jones Scholarship in Paper Engineering.

The Material Handling Institute, Inc., has elected **L. West Shea** of The Union Metal Mfg. Co. as president, **John C. Mervius** of American Engineering Co. as first vice president and **H. M. Palmer** of Lewis-Shepard Products, Inc., as second vice president.

The Western Candy Conference, bringing together candy manufacturers and allied trade members from 11 Western states, will be held at the Fairmont Hotel, San Francisco, March 6-7. Speakers will include **Philip P. Gott,** president of the National Confectioners Assn., who will discuss problems affecting manufacture; **Dr.**

What's doing

Feb. 11-12—**American Management Assn.** (Marketing), Hotel Statler, New York.

Feb. 18—**Salesmen's Assn. of the Paper Industry,** New York.

March 2-6—**All-Industry Frozen Food Convention,** Hotel Stevens, Chicago.

March 3-7—**American Society for Testing Materials,** Spring Meeting and Committee Week, Cleveland, Ohio.

March 6-7—**Western Candy Conference,** Fairmont Hotel, San Francisco.

March 11-14—**The Society of the Plastics Industry,** 5th National Exposition, Convention Hall, Philadelphia.

March 22-April 6—**Chicago International Trade Fair,** Navy Pier, Chicago.

March 23-27—**American Chemical Society,** Buffalo, N. Y.

March 24-28—**National Folding Paper Box Assn. of America,** Chicago.

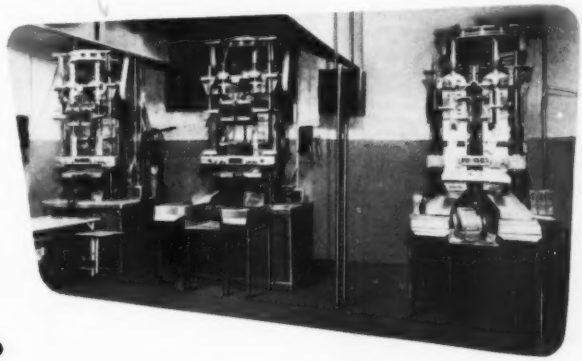
March 30-31—**Packaging Machinery Mfrs. Institute,** semi-annual meeting, Hotel Dennis, Atlantic City.

March 31-April 4—**21st AMA Packaging Exposition and Conference,** Convention Hall, Atlantic City.

Packages SELL!

. . . because STOKESWRAP seals-in all the tasty freshness of many food products, from powdered soups to salted nuts. The products of Fisher Nut & Chocolate Company, illustrated above, were packaged on STOKESWRAP . . . and the original, tantalizing freshness and purity of these products are retained in sales-stimulating packages. In one continuous operation, the STOKESWRAP measures, packages and seals . . . using either Cellophane, Pliofilm, Polyethylene, Foil or other heat-sealing papers.

The STOKESWRAP is completely automatic, and produces packages from 50 to 140 per minute depending upon the size. For complete details on this most versatile of all packaging machines, send for our descriptive folder.



Three STOKESWRAP Units installed at the Fisher Nut & Chocolate Company, St. Paul, Minn.

PACKAGING MACHINERY
PAPER BOX MACHINERY

Frankford
Philadelphia 24, U.S.A.

STOKES & SMITH Co

fmc Subsidiary of Food Machinery and Chemical Corp.

Exclusive West Coast Distributor
SIMPLEX PACKAGING MACHINERY, INC.
(subsidiary of FMC)
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* they're Sensational in full color

Ceragraphic spray-coats stock mold glass containers for unrivaled beauty and distinctiveness . . . in your particular colors . . . whether you select transparent, translucent, opaque, metallic or antique effects. Spray-coating is a natural for cologne sticks, liquid colognes, toilet water, perfumes or any other products you wish to endow with glamour and individuality. Containers can then be decorated and printed with stunning modern effects and embellished by handsome closures.

Write for a sample collection of spray-coated containers in lush, glamorous colors. Have them on your desk when you plan new packaging or redesign existing containers. With our facilities and experience, we can make spray-coating an economical, important innovation.

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New York Phone — Whitehall 3-4730

For your information

Ira B. Cross of the University of California, who will cover financial problems; **Walter Landor** of Walter Landor & Associates, who will talk on package design. This conference is expected to be the largest of its kind ever held. Information on attendance should be directed to Candy Headquarters, Room 305, 607 Market St., San Francisco.

The shipment of electrolyte acid or corrosive battery fluid in polyethylene bottles of capacities up to 1 qt. has been approved by the **Interstate Commerce Commission.** The ruling covering this states, in part: "Fibreboard boxes with inside containers of polyethylene, or other electrolyte acid-resistant plastic, not over one quart each. Individual containers must be packed to prevent movement within the box by use of partitions or other suitable cushioning."

The American Management Assn. has recently published Packaging Series No. 36, titled "How Industry Is Solving Its Packaging Problems," containing papers presented at the Packaging Conference of the AMA, held in Atlantic City last year. Copies of the publication are available from AMA, 330 W. 42nd St., New York, at $1.25 for non-members and $1 for members.

More than 1,500 executives from all sections of the United States attended the **AMA General Management Conference,** held last month in Los Angeles. The three-and-a-half-day meeting had sessions covering executive compensation, renegotiation of war contracts, subcontracting, economic outlook, formation of long-range business policy, criteria of good financial management and the function of management in a free society.

The second completely revised and augmented edition of "**The Chemistry and Technology of Food and Food Products**" (Interscience Publishers, New York; $12 per volume), prepared by a group of specialists under the editorship of **Dr. Morris B. Jacobs** of the Polytechnic Institute of Brooklyn, is now available. It consists of a set of three volumes and is the only book on food technology containing a chapter on packaging. The section dealing with packaging, written by **C. W. Browne,** advisory editor of MODERN PACKAGING, appears in Vol. III.

Charles C. Carr, director of public relations for the **Aluminum Co. of America** throughout a 15-year period, has written a history of that company from its pioneer-

Atomizer cap molded for Elizabeth Arden by Colt's Manufacturing Co., Hartford.
GRUEN
Gruen watch box molded by Rathbun Molding Corporation, Salamanca, New York.
Your Product

the trend is toward color . . .

and Beetle® gives you much more than color

Sales appeal in color . . . beautiful BEETLE colors that go through from surface to surface . . . they won't fade, peel or crack.

BEETLE urea-formaldehyde molding compound is durable, too . . . resists scratches and wear . . . won't melt or soften under heat . . . *won't attract dust.* And cleans easily with a whisk of a damp cloth.

All this, plus lightweight, high impact strength, no taste or odor, resistance to alcohol, common solvents and essential oils make BEETLE outstanding for closures and packaging, and *naturally*, appliance housings and handles.

Fit BEETLE into your product. May we help?

We may be able to help you meet military specifications where plastics and resins are concerned. What's your problem?

AMERICAN Cyanamid COMPANY

PLASTICS DEPARTMENT

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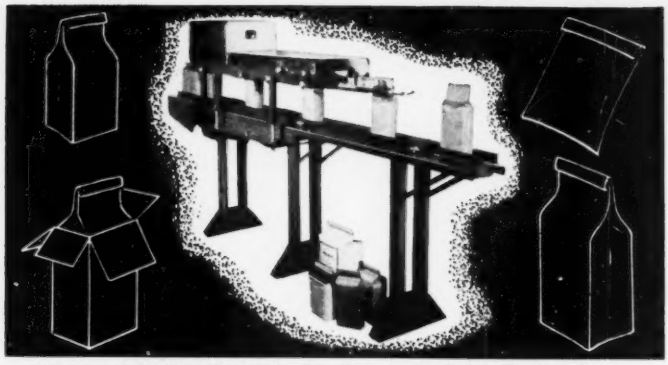
In Canada: North American Cyanamid Limited, Royal Bank Building, Toronto, Ontario, Canada

FRY BAG SEALER



Makes Sift-Proof Seals In Heavy Weight Paper Bags

Fry Model CSG automatically makes a double folded sift-proof heat seal in the top of any heavy weight paper bag. The first fold is securely heat sealed; the second is glued for extra safety.

Bags handled include polyethylene and pliofilm lined, polyethylene coated and those with thermoplastic top sealing bands. Simple adjustments for bags of various heights. This model also handles bags which are not heat-sealable by gluing the folds.

Machine above is perfect for granular or fine products such as insecticides, chemicals, powdered paints, fertilizers, dog foods, etc. Other models available . . . when writing, please submit a sample of your bag and your product.

GEORGE H. FRY COMPANY 167 Front Street N. Y. 38, N. Y.

Look at these *aniline-printed* folding cartons.

See their clean, sharp, crisp printing.

Remember they were printed from MOSSTYPES® ...the *pre-madeready, precision-molded* rubber printing plates.

WORLD'S BEST SOURCE for... RUBBER PLATES and DESIGN ROLLERS

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From ART to PLATES... 33 FLATBUSH AVE., Brooklyn 17, N. Y.

a complete production service for converters everywhere

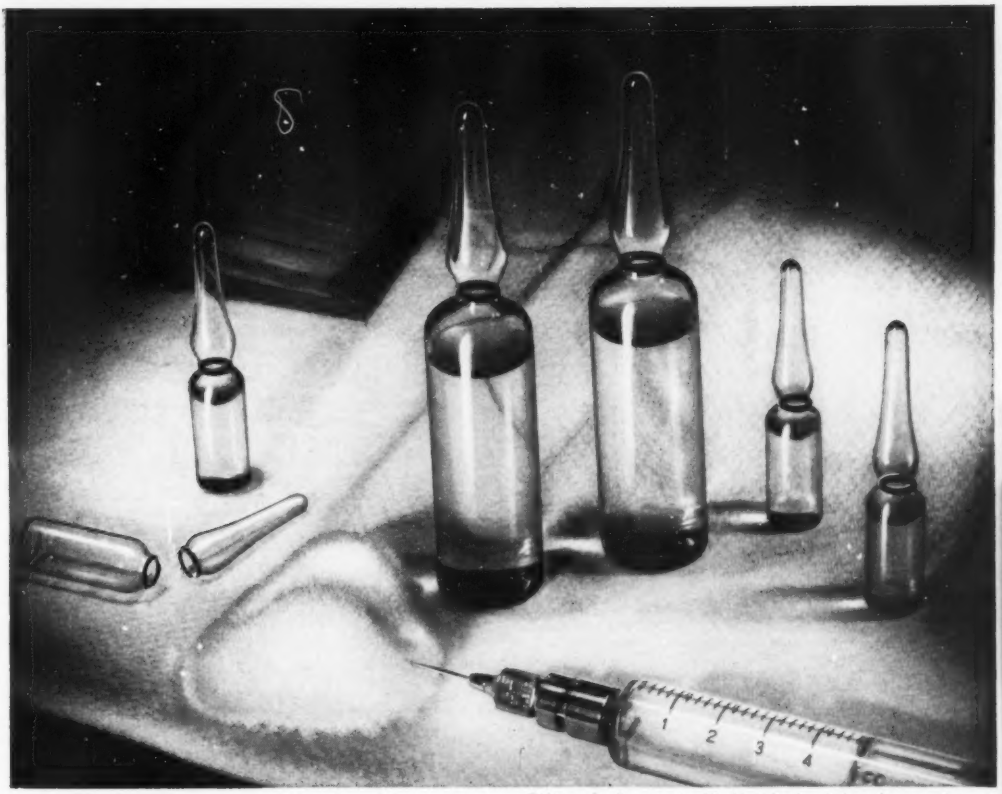
For your information

ing days in the late '80s up to the present time. Titled "Alcoa, An American Enterprise," (Rinehart & Co., Inc., New York; $3.50), the book tells the story of an American enterprise during its first 62 years of existence and the achievement of Charles Martin Hall in turning a small company of young visionaries into one of the world's greatest corporations. The story should be of interest not only to those intrigued with the history of aluminum, but to others who are seeking a case history of a business which came to its fruition under our American system.

The two big trade associations in the fresh fruit and vegetable industry—**the National League of Wholesale Fresh Fruit & Vegetable Distributors** and the **United Fresh Fruit & Vegetable Assn.**—will combine forces to fight further inroads on their volume by the frozen food processors. Members of both groups have voted to approve a merger of the associations. A five-point plan has been proposed by which the industry will join in a unified campaign to hold its volume. Included in the plan are proposals for the development of pre-packaging of various fresh foods in units sized for consumer use and the improvement of packaging and transportation.

The Hinde & Dauch Paper Co.'s newest publication, titled "How To Ship Heavy Products In Corrugated Shipping Boxes," tells how small, heavy, bulk-packed items can be shipped in corrugated "keg boxes" at a substantial savings in packaging and freight costs. The new publication is No. 12 in the H & D "Little Packaging Library" series and may be had on request to The Hinde & Dauch Paper Co., Sandusky, Ohio.

Exhibit space for the **Fifth National Plastics Exposition,** to be held in Convention Hall, Philadelphia, March 11-14, is reportedly sold out despite two successive increases in total space allotted. A study of the exhibitor companies and the products they are preparing to emphasize underlines the accuracy of the exposition slogan, "Plastics Personify Progress" which is being featured by **The Society of the Plastics Industry, Inc.,** the sponsoring body. Attendance at the exposition, which is not open to the public, is expected this year to number an uncommon proportion of buying factors representing government and military requirements. SPI meetings during the exposition will take place in the ballroom adjoining Convention Hall. The Bellevue-Stratford is the headquarters hotel.



Grip . . . bend . . . snap—Kimble Color-Break Ampuls are ready to use.

NEW!

NEUTRAGLAS COLOR-BREAK* AMPULS

snap off at the color line!

No Filing . . . No Scoring . . . No Sawing!

Now, at last, you can package in ampuls that need no filing.

Just hold a new Neutraglas Color-Break Ampul in your hands, bend it, and the stem snaps off. Presto, it's ready for use. Think of the valuable time you can save the users of your products with this package.

The secret of this revolutionary Kimble development—the result of nine years' work—is in the patented blue color band around the neck of the ampul. This color-break feature is the greatest improvement in ampuls since the development of Neutraglas containers.

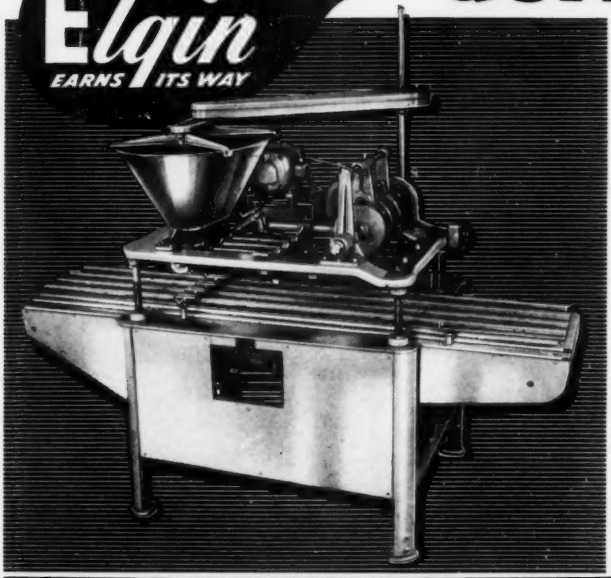
Neutraglas Color-Break Ampuls are inert to their contents. Solvents, chemicals, sterilizing agents—even distilled water—find these ampuls persistently indifferent to chemical action. Decide today to modernize your ampul package.

KIMBLE GLASS TOLEDO 1, OHIO

Division of Owens-Illinois Glass Company

* Trade Mark

Elgin EARNS ITS WAY



QUAD 4 VALVE FILLER

Now! Available with Exclusive

FINE FILL ADJUSTMENT

NEW! A low cost attachment which permits accurate adjustment of the fill while machine is in operation. This newly developed fine fill adjustment is optional equipment for the Elgin Twin and Quad Fillers. A conversion unit with complete instructions for installation at the plant is also available for Elgin Single Valve, Twin and Quad Fillers now serving packers. Write for details.

THRIFT—Economy-wise production men choose Elgin Machines for their lower initial cost, minimum maintenance and operating expense.

VERSATILITY—Widely utilized by large and small plants because of their quick, simple changeover to accommodate a broad range of products and container sizes.

DEPENDABILITY—Long years of trouble-free, continuous production distinguish the Elgin equipment now serving leading packers in the food, paint, cosmetic, oil and various other industries.

IDEAL FOR* GLASS *OR TIN

Extensively used to fill mustard, peanut butter, relish, jams, jellies, mayonnaise, soups, creams, ointments, waxes, animal foods, horseradish, roofing cement and similar products.

WRITE TODAY! ADDRESS DEPT. MA

ELGIN MANUFACTURING COMPANY • 200 BROOK STREET • ELGIN, ILLINOIS

This Machine "TAKES THE CAKE"...

and wraps it OVEN FRESH in sales appealing

PROTECTIVE PACKAGES

No matter how odd the shape . . . how delicate or fragile the product!

SAFEGUARDS AGAINST —

- DRYNESS
- MOISTURE
- FLAVOR-LOSS
- DUST-DIRT
- MOLD
- VERMIN

There's no crushing or squeezing of even the most delicately filled cakes or rolls — or breakage of fragile cookies and crackers when you package on the automatic Campbell Wrapper. Our "float" method of continuous feed wrapping is the answer. Your products reach their market "oven fresh" too, because longitudinal heat or glue sealing plus air-tight folded and crimped ends *keep moisture in or out* — where you want it. In addition, your production reaches new heights, too, for this modern machine *wraps up to 130 units per minute* — and in single or multiple product units! Saves labor, too — in most cases requiring only one operator to feed and one to pack. Machine uses materials of all types and is available with straight, L, or hopper feed. Investigate the Campbell Wrapper before you consider any other. You'll have a *better* package — at *lower* cost.

Write for fully illustrated descriptive booklet

We are contributing to the nation's defense program by providing a large part of our increased production facilities for building precision armaments.

New York office: 55 West 42nd St.

Wraps products of all shapes . . . and numerous sizes

Campbell WRAPPER

HUDSON-SHARP MACHINE CO. • GREEN BAY, WIS.

Manufacturers of Aniline and Gravure Presses, Folders, Interfolders, Laminators, Waxers, Embossers, Slitters, Sheeters, Roll Winders, Packaging Machines, Crepers and Tissue Converting Units.

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After selecting the items you want, merely circle the corresponding numbers on the post card, fill in the information requested, and mail.

ROMANCE OF WAX. Folder traces the history and various uses which have been made of waxes from the earliest times to the present. Bareco Oil Company. **(B-251)**

SPECIFYING CORRUGATED BOXES. Booklet gives hints on factors to be considered when establishing specifications for corrugated shipping containers. The Hinde & Dauch Paper Co. **(B-252)**

CARTON WRAPPING MACHINE. The features of the Hayssen carton wrapping machine, designed for wrapping multiple-unit packages. An illustrated description of the machine's operation is also included. Hayssen Manufacturing Co. **(B-253)**

JAW SEALERS. Bulletin illustrates and describes several foot-operated jaw heat sealers for cellophane, pliofilm and other film materials. Prices included. Cleveland Lathe & Machine Co. **(B-254)**

VARIABLE SPEED TRANSMISSIONS. Bulletin tells about the "Fra-sure" variable speed transmission for speed control of fractional horse power motors which run packaging machines. Frazier & Son **(B-255)**

LIQUID FILLING MACHINES. Booklet contains information, specifications and illustrations of the complete line of Packer gravity and vacuum fillers for filling liquids into cans, bottles and other containers. Packer Machinery Corp. **(B-256)**

HYDRAULIC ANILINE PRINTING PRESSES. Engineering data, specifications, features, illustrations, etc., of the various Wolverine "Hydro-Printer models." Wolverine Paper Converting Machinery Corp. **(B-257)**

CUSTOM PACKAGING. Folder tells about a custom packaging service which specializes in packaging small articles, food products, etc. in polyethylene and other moisture-resistant envelopes. Perfection Packaging. **(B-258)**

CARTON CLOSURE METHODS. Brochure reveals results of tests on the six most widely used closure methods. Shows importance of safe closure to success of all other business operations. The Gummed Industries Association, Inc. **(B-259)**

FLUORESCENT COLORS. An explanation of "Day-Glo" fluorescent color materials and the various forms in which they are available. Switzer Brothers, Inc. **(B-260)**

GLUE APPLICATORS. Folder enumerates the features of several styles of hand and motor driven glue dispensers for use in affixing labels, sealing cartons, etc. Kenneth J. Moore & Co. **(B-261)**

PACKAGING EQUIPMENT. Collections of folders on Lynch "Morpac" and "Wrap-O-Matic" machines for wrapping butter, ream paper, and products which need formed cards or boats. Lynch Corporation. **(B-262)**

PLASTIC VIALS. Sample assortment of five "Clearsite" plastic vials with polyethylene closures, plus descriptive folder illustrating various size closures and decorations available. Celluplastic Corp. **(B-263)**

PACKAGING FOR PRESERVATION GUIDE. Data on "Seal-Peel" hot and cold strippable coatings. Explains equipment and techniques for their use according to military packaging specifications. Seal-Peel, Inc. **(B-264)**

"CEL-O-SEAL" BANDS. Suggestions on using "Cel-O-Seal" bands to secure primary closures, for affixing revenue stamps, for preventing "shop wear," for vacuum-packing and other purposes. E. I. du Pont de Nemours & Co., Inc. **(B-265)**

POLYSTYRENE CONTAINERS. Folder illustrates and gives the sizes of 88 different polystyrene containers which can be obtained from stock molds without any die cost to the user. Bradley Associates, Inc. **(B-266)**

BAGGERS. The Anderson Model 184 bagger used for the handling of small paper bags and the Model 184 bagger are both presented in this bulletin. Anderson Brothers Mfg. Co. **(B-267)**

TICKET PRINTER. A small press for imprinting tickets, tags, and labels with price and style information is described in this folder. Markem Machine Co. **(B-269)**

CONTAINER CLEANER. Bulletin describes two machines for air cleaning of jars, vials, and other containers at high speed. Perl Machine Mfg. Co. **(B-269)**

STOCK BOXES. Bulletin shows fourteen stock plastic boxes which are available to packagers without mold cost. Gives sizes and colors. Ira Harmon Co. **(B-270)**

PLASTIC PACKAGING. Folder contains a series of ad reprints showing assorted snap-sealed, textured plastic pouches, kits and packets for use in packaging a wide range of products. Electrical Industries, Inc. **(B-271)**

AUTOMATIC WRAPPING MACHINES. Booklet gives many examples of products which have been successfully merchandised after having been wrapped with machines made by the Hudson-Sharp Machine Co. **(B-272)**

CHEESE IN SARAN. Folder tells how Saran film provides a superior wrap for cheese. Illustrations show proper method of wrapping cheese wedges. Dow Chemical Co. **(B-273)**

SHEETERS. Complete information on the full line of Beck automatic roll sheet cutters and their attachments is given in this catalog. Charles Beck Machine Corp. **(B-274)**

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The literature and samples described here contain valuable data that will help increase the operating efficiency of your business.

After selecting the items you want, merely circle the corresponding numbers on the post card, fill in the information requested, and mail.

DESICCANT. Reprint from MODERN PACKAGING magazine explains new uses for "Desiccite 25," a dehydrating agent which meets the needs of the packaging field for a stable desiccant that is odorless and tasteless. Filtrol Corp. **(B-275)**

BAG SEALER AND GLUER. Description of the Fry CBG heat sealer and gluer for automatic and square style bags, plus complete specifications and operating details are contained in this bulletin. George H. Fry Co. **(B-276)**

SACKING SCALES. Folder illustrates and describes a number of models of Exact Weight sacking scales which permit sacking and weighing of products at the same time. The Exact Weight Scale Co. **(B-277)**

CAN PACKERS AND BOOSTERS. Summary of advantages, operational information, and specifications and features of various type can packers and boosters. Standard-Knapp, Div. of Emhart Mfg. Co. **(B-278)**

BAG-MAKING MACHINE. Bulletin contains the specifications of the "Roto-Simplex 2," a machine which makes flat and satchel bags and bag envelopes at high speed. Hol-Bag, Inc. **(B-279)**

CONTAINER PLUGS, SLEEVES AND CAPS. Illustrations and dimensions of various container plugs, sleeves, and caps that give protection against dust and dirt and damage during spraying, are given in this bulletin. Cleveland Container Corp. **(B-280)**

HEAT-SEALING MACHINES. Various jaw-type bag heat sealers, including several interesting variations which permit coding, etc. are described in folder issued by Globe-Heat-Seal Inc. **(B-281)**

COLLAPSIBLE TUBES. Bulletin contains a considerable amount of helpful information on collapsible tubes. Includes data on standard sizes and shapes, openings, closures, decorating, and ordering. Sun Tube Corp. **(B-282)**

WORLD ROTARY LABELER. Installation photographs and important data on the operation of World Rotary Labelers for applying body, neck and other types of labels to bottles, are contained in a folder issued by Economic Machinery Co. **(B-283)**

PACKAGING EQUIPMENT. Unusually complete brochure on "CRCO-New Way" labelers, casers, can markers, elevators and unscramblers. Contains uses, construction features and specifications. Chisholm-Ryder Co. of Pennsylvania **(B-284)**

EXPORT PACKAGING ADHESIVES. Five technical data sheets on UPACO export adhesives, and adhesives recommendation sheet for government specification packaging. Drawings show how to prepare water proof case liners. Union Paste Co. **(B-285)**

CARTON FORMING AND LINING MACHINE. Booklet explains the operation and lists specifications of Peters machines for forming, lining, folding and closing die-cut cartons at high-speed. Peters Machinery Co. **(B-286)**

BAG MACHINE. The new "Matador" bag machine suitable for use by firms requiring long runs on one size bag and for those who need to change quickly from size to size without elaborate adjustment, are illustrated and described with specifications. H. H. Heinrich, Inc. **(B-287)**

CARTON TUCKER. Specifications, illustrations, and other information is provided on the "Neomax" carton tucker. William B. Sanford, Inc. **(B-288)**

AUTOMATIC FILLING AND WRAPPING MACHINES. Leaflet illustrates and describes the operation of 12 different models of Elgin filling machines and cappers, including 4-valve, twin, and single cylinder universal filling machine. Elgin Manufacturing Co. **(B-289)**

ANILINE AND GRAVURE PRESSES. Folder illustrates and describes the features of Halley aniline and rotogravure presses for paper, foil, cellophane, plastics and similar materials. Marac Machinery Corp. **(B-290)**

GOVERNMENT PROCUREMENT. "Casco" Service Bulletin tells how to obtain invitations for bids for government contracts. Includes lists of purchasing offices for wood, plastics, and paper products and table of government adhesive specifications with recommended "Casco" adhesives for meeting them. Chemical Div., The Borden Co. **(B-291)**

TRANSWRAP AUTOMATIC PACKAGING MACHINES. Folder contains illustrations and descriptions of machines which automatically form a package from a roll of material, fill and seal it. Volumetric and auger models. Transparent Wrap Machine Corporation. **(B-292)**

FOLDING CARTONS. Brochure illustrates numerous folding cartons used by leading manufacturers. Their various advantages are also given. Old Dominion Box Co., Inc. **(B-293)**

"AUTO-PAK" PACKAGING MACHINE. Bulletin describes a machine of simple design which will package a wide range of products in individual cellophane or film packets at high-speed. Pak-Rapid, Inc. **(B-294)**

Fill out and mail this card now

Postage Will be Paid by Addressee

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Washington review

Last year the glass-container industry produced an estimated 117 million gross containers, or approximately 10 million gross more than were produced in the previous year. Reflecting the effect of this healthy production gain, the first decontrol order for a major packaging form was recently put into effect with the revocation of Glass Container Order M-51. Under the order, new designs for the production of glass containers could not be adopted.

With the ban now lifted, the glass trade is again free to supply new molds and new designs for bottles and jars to the approximately 20,000 packers of foods, drugs, beverages and other commodities who use glass containers and were therefore affected by the provisions of M-51.

Cellophane

As the result of NPA's amendment to Order M-69 restricting sulphur users to 90% of the amount used in 1950, the outlook for cellophane supplies has taken a turn for the worse. Sulphur itself is not used directly for cellophane, but carbon bisulfide and sulfuric acid are essential ingredients in cellophane production. These ingredients, for which there is no substitute, are affected by the order.

The sulphur shortage, as frequently reported in this column, became increasingly serious last year. NPA's 90% usage level is based on a new NPA estimate of 5,200,000 tons domestic production, or 200,000 tons more than producers themselves anticipate. Production increases as a result of working new sulphur deposits are, however, expected after the middle of the year.

One of the major producers of cellophane has announced that its cellophane production will probably be reduced 10% as a result of the sulphur restriction. The situation in regard to Olin, who entered the field as a new producer last year, was unclarified at this writing. NPA has indicated it will try to support production of carbon bisulfide at 81% of 1950 capacity for new or expanded facilities.

Metals shortages

The outlook for various metals this year has already been recognized as a critical factor in certain phases of packaging. A number of question marks hang over the prospects for adequate supplies of tin, lead, aluminum, copper and steel.

Recently there have been signs indicating a break may soon come in the tin stalemate. Tin buying on the part of the Reconstruction Finance Corp., sole U.S. importer, has been suspended for nearly a year, with the RFC trying to obtain what it terms a fair price from Indonesian and Bolivian producers.

With a recent, more favorable, turn in the price level for foreign-market lead, prospects have increased for greater lead imports. This in turn would affect quota allotments in this country.

Aluminum quotas have been greatly over-allotted by NPA, which will probably necessitate a withdrawal of aluminum from the national stockpile of strategic materials.

Meanwhile upward-revised defense goals may mean the metals shortages will grow more acute than was anticipated late last year and the shortages may be with us longer than expected in spite of the increased capacity that will be brought into production later this year.

Charles Wilson, Director of Defense Mobilization, has predicted the mobilization program will call for an expenditure of $50 billion annually. Military deliveries have currently reached a rate of $2 billion monthly.

Aluminum closure cut

An approximately 50% cut in the amount of aluminum for closures used for alcoholic and non-alcoholic beverages, cosmetics and chemicals results from an amendment to Closure Order M-26.

Previously aluminum closures for such products were permitted at 65% of the base-period use. Now it is 35%.

Users may accept delivery of closures already ordered, even though it brings their inventories over the 75-day-inventory quota limitation.

The quota reduction is necessary, according to NPA, because the aluminum shortage forced a cut of 400,000 lbs. in the first-quarter aluminum allotment to closure manufacturers.

NPA has also changed rules applying to aluminum-foil quotas. To encourage better use of available supplies, the new quota is in terms of weight of materials, rather than the numerical quantity used in the base period.

Metal cans

Users of metal cans should find it easier to spread production equally over all quarters of 1952 as the result of Direction 3 to Can Order M-25.

Under the terms of this directive, a packer may use as a quarterly packaging base, for the first and following quarters, the number of cans used to pack a particular product during the base period, divided by four. If you adopt the method in the second quarter, you may use an amount of cans determined by dividing by three the amount of cans used in the last three quarters of the base period. Under M-25, a packer may use either 1949 or 1950 as his base year.

Direction 3 supersedes Direction 1. The latter established a method of averaging quarterly can bases. The new direction in no way increases the total amount of cans a packer may use, but simply improves the standard procedure whereby can users may themselves adjust their metal can bases for the first three quarters of 1952, without the necessity of having NPA determine bases for them.

Steel shipping drums

Any future squeeze in the availability of steel shipping containers stands to be ameliorated as a result of modifications recently made in the inventory provisions of Order M-75.

The order permits a packer to have a 45-day supply of each size and type of drum, and even though his inventory currently exceeds a 45-day supply in one type or size he may accept delivery of another size and type where he holds less than a 45-day supply.

The amended order also institutes an incentive plan wherein a packer may receive used drums returned to him by his customer and these drums may be in excess of inventory quota, provided that the number of such drums in any particular size and type does not exceed the quota by more than a third.

Certain types of used drums or drums for inter- and intra-plant shipment and containers for fluid milk are exempt from the amendment to M-75.

Operating supplies

Manufacturers who can't get materials needed for installation of equipment in existing plants are now allowed to obtain MRO priorities, according to CMP Regulation 5.

The regulation establishes separate minimum quarterly quotas of $1,000 each for maintenance, repair and operating supplies, minor capital additions and installations.

Operating supplies include expendable tools, jigs, dies and fixtures used on production equipment.

Steel nails, wire and strapping used for packaging are removed from the prohibited list, which is covered by Schedule 1 of the order.

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U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps are not accepted.

Edited by H. A. Levey

Picker Control For Label-Applying Machines, S. T. Carter (to Geo. J. Meyer Mfg. Co., Cudahy, Wis.). U.S. 2,573,182, Oct. 30. In a labeling machine a picker, means for oscillating the picker continuously through a path of predetermined length from a label-receiving position at one extremity of its movement to a label transfer position at the other extremity.

Bag Valve, M. J. Strauss, Cleveland, Ohio. U.S. 2,573,230, Oct. 30. A bag having one corner turned in to form a valve opening and a supplemental sheet mounted in the pocket provided by the inturned corner of the bag and projecting inwardly beyond the same, such supplemental sheet being partially divided along line of fold into two free-valve closing panels.

Insulated Container For Bottles. M. Goldwater, New York, N. Y. U.S. 2,573,259, Oct. 30. A receptacle comprising concentrically spaced inner and outer tubular sections constituting an inner container and an outer jacket, bottom disks closing each section; a closure being provided for container and so fitted to form a sealed air chamber.

Corner Locking Construction For Paperboard Containers, R. E. Acker (to Container Corp. of America, Chicago, Ill.). U.S. 2,573,379, Oct. 30. A blank for a paperboard container comprising a paperboard sheet cut and scored to provide a rectangular bottom panel, an end-wall panel hingedly connected along fold line to an end edge of bottom panel and having a tab hinged to a portion of a side edge of end-wall panel.

Holder For Lipsticks and Like Cosmetic Material, A. A. Klippert (to Colgate-Palmolive-Peet Co., Jersey City, N. J.). U.S. 2,573,452, Oct. 30. A lipstick case comprising an outer cover in telescopic slidable relation with a casing, said casing having a base, imperforate side walls and a small opening in its lower portion for admitting air into its interior and having an inner carrier for a lipstick slidable axially within said casing.

Foil Container, S. M. Weisberg, E. H. Paulsen and H. Silbermann (to National Dairy Research Laboratories, Inc., New York, N. Y.). U.S. 2,573,524, Oct. 30. A container comprising a hollow body of polygonal cross-section having closed upper and lower ends and side panels of greater height than width, said body being formed of thin metallic foil having little resistance to impact and buckling stresses, corners having a reinforcement of foil of substantially uniform dimensions integral with side panels and extending the full length of corners.

Bottle-Closure Device, J. J. Detzel (to Kayware Corp., Chicago, Ill.). U.S. 2,573,552, Oct. 30. A bottle closure adapted for sealing cooperation with a bottle neck having an outwardly projecting annular neck bead at its end, a one-piece cap member formed from a relatively stiff elastic material to afford an annular cap bead adapted to be stretched about and moved downwardly beyond the neck bead of a bottle neck and snugly to embrace the bottle neck just below neck bead.

Envelope, J. A. Russo, Pittsburgh, Pa. U.S. 2,573,610, Oct. 30. In combination with an envelope having front and rear flaps and a detachable end flap, an extractor longitudinally movable in envelope and parallel arms connected to form a loop.

Pneumatic Tire Package, F. Herzegh (to The B. F. Goodrich Co., New York, N.Y.). U.S. 2,573,664, Oct. 30. A tire package comprising a tire casing having spaced-apart bead portions and expandible spacing means extending between said bead portions to hold the bead portions in spaced relation, said means comprising a strip of stiff sheet material arranged circumferentially of the tire.

Collapsible Carrier, M. E. Holy (to Container Corp. of America, Chicago, Ill.). U.S. 2,576,179, Nov. 27. A paperboard carrier for bottles comprising a pair of tubular members, each of members including a side panel, a central longitudinal panel and a pair of end panels hingedly joined to the side panel and the other central panel along parallel fold lines, a common bottom panel for tubular members and hinged thereto only along the lower edges.

Automatic Weighing Machine, O. G. Mosher (to Eagle Machinery Co., Ltd., San Francisco, Calif.). U.S. 2,576,411, Nov. 27. In an automatic weighing machine, a feed means including a continuously rotating drum adapted to supply a product at a predetermined rate, a hopper adapted to receive the product from the feed means and having a lower open end, weighing means serving to support weighing hopper.

Method of Sealing End Closures to Containers, R. S. Condon (to Continental Can Co., New York, N. Y.). U.S. 2,576,446, Nov. 27. The method of sealing a fibre container body with a closure having a downwardly facing sealing channel with an inner generally cylindrical wall and a downwardly and outwardly tapering flange, wall and flange being of greater depth than the thickness of body wall, which comprises placing an adhesive in the channel to form a band in the ceiling thereof.

Bag-Handling Machine Having Means For Driving the Bag Downwardly and Closing the Mouth Thereof, E. E. Messmer and J. D. Sylvester (to Asmco Packaging Machinery, Inc., Long Island City, N. Y.). U.S. 2,576,471, Nov. 27. A machine for handling bags having front and back faces, machine comprising means to guide bags, bottom first, downwardly along a predetermined line of travel and having a substantial vertical component, a wide element disposed alongside the path of travel of the bags to drive bags downwardly through the machine.

Method Of Producing Sealed Bags, W. A. Schoen (to Milprint, Inc., Milwaukee, Wis.). U.S. 2,576,542, Nov. 27. The method of producing bags from a web of sheet material, which comprises, initially applying local, laterally spaced spots of heat-sealable material to one face of a continuous web of sheet stock inwardly of the side edges thereof, continuously advancing the web and applying transverse strips of heat-sealable material to the opposite face thereof and entirely thereacross at approximately the same areas as said local spots, thereafter applying a continuous adhesive strip to a longitudinal edge portion of the web and folding the web to form a tube adhesively united along the longitudinal edge portion.

Bottle Cap, A. G. Edwards, Diamond Springs, Calif. (to Mero Co., Inc., Modesto, Calif.). U.S. 2,576,580, Nov. 27. A bottle cap comprising a circular sealing gasket, a clamping member seated on the sealing gasket and a plurality of circumferentially spaced locking fingers loosely mounted on the clamping member at the periphery and depending therefrom about the gasket.

Dispensing Container, S. Goldstein, San Francisco, Calif. U.S. 2,576,595, Nov. 27. A container for use in dispensing liquids such as milk, said container being fabricated of a single sheet

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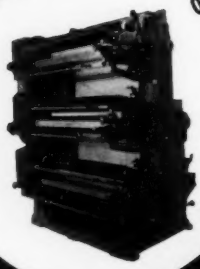
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U.S. patents digest

of paper and at least one upright wall portion thereof being two plies in thickness, the outer ply of such wall portion being incised to provide a rectangular opening closed by a seal tab.

Nested Bottle-Cap Package, R. Sonnenberg (to Mid-West Bottle Cap Co., Belvidere, Ill.). U.S. 2,576,650, Nov. 27. A package of nested bottle caps having flat tops and frusto-conical sides, said package comprising a cylindrical sleeve-shaped tube enclosing said nested caps, said tube having its end portions folded inwardly to define abutments at opposite ends thereof.

Carton Lining Device, E. M. Roach (to Arvey Corp., Chicago, Ill.). U.S. 2,576,697, Nov. 27. A device for expanding and shaping an initially flat flexible liner bag to adapt the liner to enter and substantially conform to the interior surfaces of a relatively rigid container of rectangular form, comprising a hollow rectangular former composed of relatively rigid but flexible material including a pair of rectangular facing panels in hinged engagement with a pair of outwardly collapsible side panels.

Container With Integral Snapping Closure Fastener, M. I. Williamson, New Haven, Conn. U.S. 2,576,708, Nov. 27. A container for merchandise, comprising a receptacle part having upwardly and inwardly sloping exterior side walls which define ornamental facets, a cover part fitting over said receptacle part and engaging the same, said cover part having at least one sidewall member whose lower margin is formed as a resilient clip for snapping over and engaging a corresponding bottom edge of the receptacle part as a latch.

Bottle Package, N. A. Schoelles (to General Aniline & Film Corp., New York, N. Y.). U.S. 2,576,725, Nov. 27. A commercial package adapted to be stacked with similar packages, comprising a bottle having body and neck portions, body portion including an abutment projecting from the side of the body portion and facing the neck portion, neck carrying a closure.

Linerless Venting Closure, J. A. Benner (to Armstrong Cork Co., Lancaster, Pa.). U.S. 2,576,917, Dec. 4. A linerless closure comprising a skirt having means for affixing the closure to a container and a top portion including a rigid central portion having extending radially therefrom a plurality of reinforcing ridges terminating in an annular section.

Apparatus For Notching Can Body Blanks, E. Laxo (to Imperial Diesel Engine Co., Oakland, Calif.). U.S. 2,577,021, Dec. 4. An apparatus for forming can bodies including a frame, a stationary die member supported on frame, an oscillatory lever mounted on frame to oscillate above a horizontal axis so as to move one end thereof in a vertical plane toward and away from the horizontal working surface of the stationary die member.

Container Construction, J. E. Page (Gibson Patent Containers, Ltd., a corporation of New South Wales, Australia). U.S. 2,577,148, Dec. 4. In a container having a body of flexible material such as paperboard that is capable of being expanded into tubular form, the combination of a series of rim-engaging members formed by cuts in the body and being hinged along a vertical side thereof to the body.

Tag-Forming Tool, L. C. Hauer (to Cunningham Co., Pittsburgh, Pa.). U.S. 2,577,192, Dec. 4. A tool for preparing identification tags for attachment to objects to be marked comprising a base housing, a tack-supporting element located in a bore in housing, a platen provided with an internal bore to receive said tack-supporting element and mounted for movement axially.

Locking Means For Boxes, L. James (to Huye Space Saving Box System, Inc., New Orleans, La.). U.S. 2,577,248, Dec. 4. Locking means for securing cooperating box sections in as-

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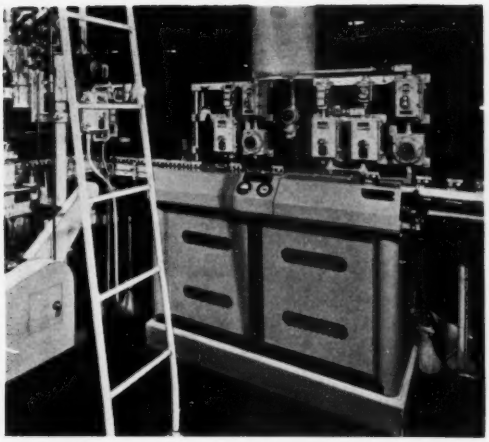

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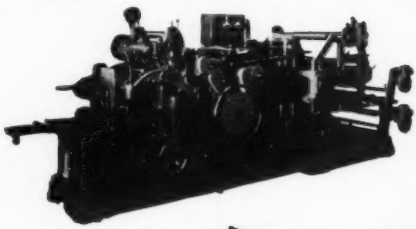

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U. S. patents digest

sembled relation comprising a plurality of wedge-shaped tongues integral with one of said sections and having free end projecting away from the disassembling movement of the other section, other section being formed with a plurality of locking recesses registering with and receiving said tongues.

Container Handling and Registering Apparatus, J. Magnusson (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U.S. 2,577,341, Dec. 4. Container handling and registering apparatus having in combination an intermittently operated conveyer for conveying successive containers having lettering formed on the surface thereof and container-registering mechanism for registering the containers with the lettering disposed in a predetermined position with respect to the conveyer.

Bag-Forming Machine, J. G. Vergobbi (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U.S. 2,577,386, Dec. 4. In a bag-forming machine, in combination, bag-forming means comprising means for folding a web of bag-forming material longitudinally to form a U-shaped strip, means for sealing the strip transversely at spaced intervals and along the open marginal edges of said strip to form a series of connected bag sections.

Can-Feeding Mechanism, E. P. Tarot (to Food Machinery & Chemical Corp., a corporation of Delaware). U.S. 2,577,546, Dec. 4. A can-feeding mechanism comprising a helical guide portion having can-supporting surfaces extending from an upper to a lower level and arranged to turn a can from one position to another as can moves along helical guide portion.

Cellular Container, W. B. Crane (to Alpak, Los Angeles, Calif.). U.S. 2,578,174, Dec. 11. A collapsible bottle carrier formed from a sheet of flexible material blanked and creased to provide bottom-forming panels upon which the bottles rest in the carrier, side-wall forming panels joined at their edges directly to the outer edges of bottom panels, foldable end-wall forming panels connecting the ends of side-wall panels with centrally disposed longitudinal partition-forming panels.

Container-Loading Machine Having Automatic Carton Ejector, E. D. Andrews (to The Quaker Oats Co., Chicago, Ill.). U.S. 2,578,277, Dec. 11. A container-loading mechanism comprising the combination of a stationary support for a container, means for positioning a succession of groups of articles across the mouth of the container, a reciprocating feeder to shift a group of articles into the container while the container is on the support, having ejector for removing a filled container from support.

Paper Container, J. K. M. Harrison, Gainesville, Va. U.S. 2,578,244, Dec. 11. In a container having a body portion and an end closure having an aperture therethrough extending from one surface to the other, the defining walls of said aperture converging from the inner surface of the closure to the outer surface thereof, a cover member overlying the outer surface of closure, cover member having a small air-vent aperture therein.

Packaging, H. J. O'Brien, San Francisco, Calif. U.S. 2,578,583, Dec. 11. A shipping packaging comprising a planar base pad, a plurality of packages seated thereon for dispensing as individual units, said packages being in abutting relationship and the combined areas of their bottom surface substantially equaling the area of the pad, packages being adhesively secured to the pad at their bottom surfaces.

Apparatus For Inverting Article Containers, E. Rothman (to Edward Ermold Co., New York, N. Y.). U.S. 2,578,603, Dec. 11. In a container-inverting apparatus, the combination of a pair of spaced opposite gripping members adapted to receive a container between them and feed mechanism for positioning a container between these members.

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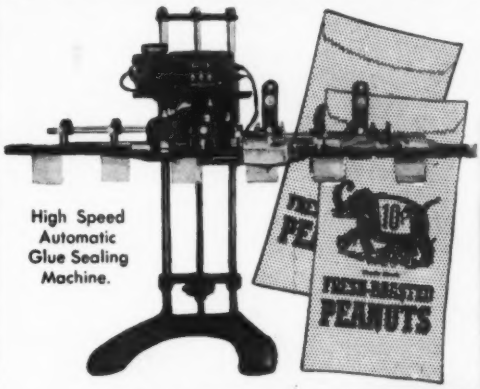

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APPLY GLUE TO LABELS
FOR
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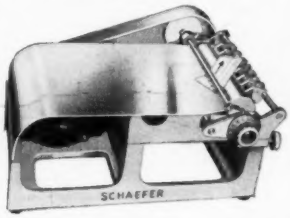

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NEAT RESULTS. Printing stays clean. No glue ooze at edges of labels. No lumps, blisters or wrinkles. Easy to operate.

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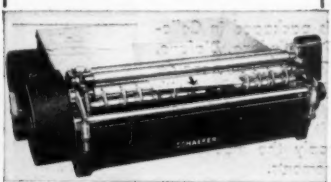

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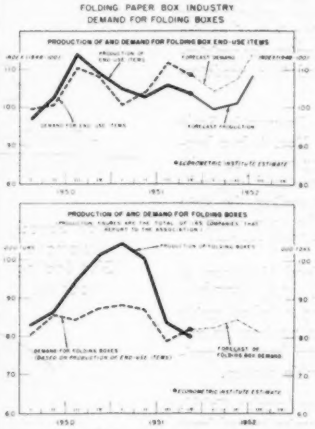
Folding paper box forecast

Relatively stable demand for folding boxes this year is indicated by a report compiled for the Folding Paper Box Assn. of America by the Economic Institute, Inc.

The forecast is of special interest in that it is based on calculations derived from examining the historical relationship between production of items packaged in folding boxes and real disposable income (personal income less direct taxes; adjusted for changes in consumer prices).



The estimated demand of end-use items is then used as a yardstick against which forecasts of folding-box demand can be made.

The accompanying chart (upper panel) presents an index of production of items packaged in folding boxes (solid line), together with an index of consumers' demands for those items (dashed line).

Total industrial production, reported at 219 (1935-1939 is 100) for October, 1951, is expected to reach a cyclical peak of about 230 in March this year and then decline about 2% by the end of the third quarter.

Activity in the end-use industries in the first half this year, as indicated in the chart, will probably be below that of the same period last year, whereas the third-quarter 1952 level is expected to be greater than that of the relatively low third-quarter level last year. Major strength in the end-use index is expected to be found in the important food and beverage industries. End-use production in 1952 is forecast below consumer demand, implying there will be some mild inventory depletion.

The lower panel of the chart shows average monthly production (solid line) and the demand for folding boxes based on production of end-use items (dashed line) for the 145 company plants reporting to the Folding Box Assn.

Production of folding boxes last year dropped from a Korean-boom high of 104,000 tons monthly average in the first quarter to an 80,000-ton monthly average in the fourth quarter. Apparently the decline has since leveled off. Forecasts for the months ahead, as shown in the chart, indicate stable demand at a level probably above actual production.

Navy packer training school

The first on-the-job packer training program ever organized at the Naval Supply Center, Norfolk, Va., is now being conducted by the General Supply Depot's Packing Section.

The course, sponsored by the Bureau of Supplies and Accounts, lasts six months and is intended to qualify NSC employees, both men and women, for rating and employment as packers.

Classroom instruction and lectures are followed by practical work in actual packing and crating of material shipped from the Norfolk Center. Production assignments include work in the box factory, where packer trainees learn to make boxes, cartons and crates. Later, they make liners for boxes, crates and palletized material. Finally, in the course, they learn to pack material in cartons, boxes, crates and barrels.

A new group of from six to 10 employees enters the course each week. At present, approximately 60 men and women are scheduled to attend classes. Candidates for the course are selected on the basis of qualifying tests established by testing a group of 25 NSC employees already working as packers. The tests include reading and mathematical abilities and manual dexterity.

Plastic

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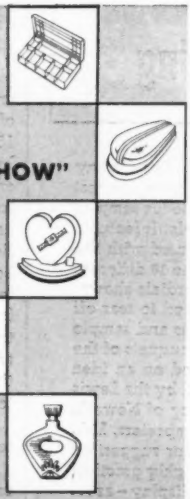

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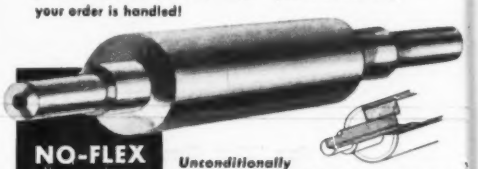
When you need cylinders — plate, rotogravure, rubber covered or plain steel — Pamarco engineering and production experience in all phases of printing and packaging systems can guarantee highest possible performance, long service and lower costs. The next time you need cylinders, call Pamarco — you'll like the way your order is handled!



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Rodent-resistant

(*This article continued from page* 131) placed in three specially fitted exposure stations, each containing a colony of wild rodents. In two of these from 15 to 25 Norway and roof rats were housed, while the third contained several hundred house mice. During the test, efforts were made to duplicate as nearly as possible normal conditions. Records were kept of the time elapsing before the test films were damaged. As in other studies of this type, the differential in penetration times for the treated and untreated plastic was used as a measure of the degree of protection which had been afforded by the test compound.

The results of the exposure-station tests are given in Table II.

Appraisal of these plastic films (except 1C-673) was also made by H. J. Spencer of this laboratory at Gainesville, Fla. By exposing them to 100 roof rats in a "bull pen," he found the pattern of effectiveness of the various treatments was the same as given in the table. This was an intensified test, however, and resulted in the damaging of all films. As in the test at Denver, the plastic covering containing the complex with trinitrobenzene (1C-674) was the last to be penetrated.

Discussion

As shown in Table II, films containing the trinitrobenzene compounds were highly effective in preventing both rat and mouse attacks. It is felt these results are quite significant since this test constitutes optimum conditions for rodent attacks. Of these two compounds, the complex in film 1C-674 would appear to be the more useful. In these tests it was equally as effective as the complex in 1C-673 at a considerable lower concentration and, as indicated in Table I, it appears to be better suited for the film-calendering process.

The better results obtained with trinitrobenzene complex (1C-674) than zinc dimethyldithiocarbamate-cyclohexylamine complex (1C-672) would appear to be due primarily to its blooming or sweating-out properties, since the activity of these two compounds when applied to the surfaces of cartons in starch paste are nearly equal. Indications are that the latter compound does not migrate in vinyl films—a property which might prove beneficial where the preparation of protective packaging for food products

is involved. The low order of toxicity of this compound is also a factor which makes it attractive as a potential rodent repellent, since the danger of contaminating the contents of packages is of utmost concern.

In these tests tetramethyl thiuram disulfide did not afford the degree of protection from rodent attack shown by the other tests materials. This compound, although possessing promising repellent properties, has also been found less repellent than the other materials when applied as a surface coating to test boxes.

This work is of particular interest, for it has shown that some rodent-repellent chemicals may be incorporated in substantial quantities in plastic films, although the tolerance may be different for each candidate material. It has also demonstrated that some chemical repellents may be expected to retain their effectiveness when dispersed in plastic films. Such formulated films constitute a promising rodent-repellent material.

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(1) DeWitt, James B.; Welch, Jack F.; and Bellack E. Rodent Repellency. MODERN PACKAGING, *23*, No. 9, pp. 123-126 (May, 1950).

(2) Welch, Jack F. Rat-Repellent Findings. MODERN PACKAGING, *24*, No. 9, pp. 138-140 (May, 1951).

(3) Welch, Jack F.; DeWitt, James B., and Bellack, E. Rat Deterrents for Packages. *Soap and Sanitary Chemicals*, 26, Nos. 4 and 5 (April-May, 1950).

Vending machines

Coffee-vending machines paced the growth of the automatic merchandising industry in the 12 months ending Dec. 31, 1951, according to figures just released by *Vend*, the magazine of automatic merchandising.

The number of coffee venders on location increased by 105% during that period. Ice-cream vending increased 49%, cold cup beverages 18.5%, bottle beverages 9%, cigarettes 8% and candy 7%.

Vending machines now account for 4% of the total sales of candy and for 16% of the total candy-bar volume. Nineteen per cent of the total cigarette volume is made by venders.

As of Jan. 1, 1952, there were 396,850 nickel and dime candy-bar venders, 436,700 cigarette machines and 507,232 bottled-drink venders, according to *Vend*.

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Automatic bag baler

General Mills, in its Buffalo plant, is using a new machine that inserts filled consumer-sized flour bags into paper baler bags. The baler unit is pneumatically powered and can compress and insert two 25-lb. bags of flour into a 50-lb. baler bag at a rate of 20 bags a minute. The result is said to be a tight, relatively square bale with excellent stacking and handling properties. The baler bag is used to help reduce breakage of the single-walled, coated 25-lb. flour bag in shipment and to eliminate soilage.

In operation, two lines of filled bags are directed into the baler unit by a continuously running conveyor belt. As the two lead bags arrive in position, an air cylinder and pusher combination is set in motion which moves the bags out of line against a stop plate, continuing its forward motion until the bags are compressed to slightly less than the width of the baler bag. A second air cylinder and pusher then forces the bags through a set of bag-opening jaws on which are clamped the top edges of the baler bag. At the end of this thrust the two bags are firmly seated at the bottom of the baler bag, which is then released from the bag-opening jaws and conveyed automatically to a compression roll which compresses the face of the bale. Another conveyor leads the filled bales to the bale-closing and sealing machine. Both air cylinders return to their starting position automatically and repeat the baling cycle.

The baler unit is designed for use in a production line in conjunction with a bale-closing and sealing unit. The two can be so positioned in line that only one operator is required to attend to both, an installation designed to effect savings in labor costs.

The 25-lb. flour bag is used in many sections of the United States as a family-sized container. About 7.8% of the flour produced in 1950 was put up in this size of bag. Several West Coast mills, reportedly, have successfully used shipping containers to hold 25-lb. bags of flour and thus eliminate breakage and soilage. However, the baler-bag method is said to provide savings in materials costs and also result in less costly storage and handling.

CREDIT: *Model 225-B baler and model 100-BCS closing and sealing unit, St. Regis Paper Co., New York.*

Inexpensive... **MINIATURE ROTOGRAVURE PRINTING PRESS**

...10" web width (also 15" and 20" web widths) up to 3 colors.

... Use it in tandem with your bag making or packaging machines ... or use it to preprint your packaging webs.

Only $1600.00 for "Single Print Unit," alone.

This is KILB's Two Color Miniature Rotogravure Press. It consists of two Single Color Units, mounted one above the other. Includes dryers and unwind and rewind mechanisms. This is our latest design Two Color model that sells for only $4313.00 complete (less motors). Write for literature and prices.

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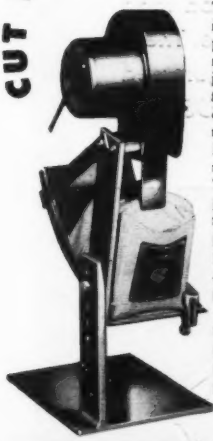

The Anderson Bagger, Model 134, is designed to handle bagged products at a fast rate with a minimum of effort. Simple adjustments for height and tilting forward or backward enables the operator to set the machine at the most advantageous position. He can fill the bag and place it in the carton in one operation. The stainless steel bag trough, capacity 200 bags, may be loaded from front or back. Simple adjustments for bag sizes.

Blower, equipped with air filter, opens bag and keeps it free from foreign matter.

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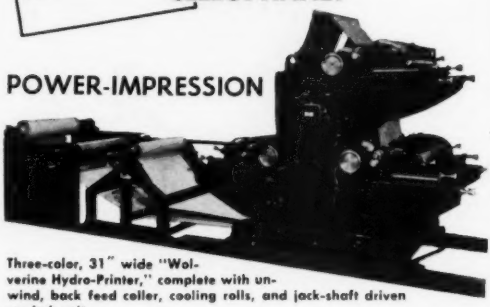

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Touch of seasoning

(*This article continued from page* 89)
scenes of harvesting, processing and packaging, but the main theme dramatically contrasts the conveniences of pre-packaged produce with the burdens, labor and cost of bulk-displayed produce.

Alternate recipes, which change every three weeks, on the back of the package is a Suffolk Farms innovation for spinach designed to encourage repeat sales and stimulate a new awareness of brand-name spinach. The Tok and French-dressing pouches have instructions for use printed on the back panels.

According to Suffolk Farms, stores are more than doubling sales of spinach and salad mix with the new packs, especially during the first part of the week when sales normally would be slow. The new packs are thus helping to put spinach and premixed salad on increased volume at a normal profit.

The future for such "hitch-hike" packages in produce would appear to be good and it may be that Suffolk has started another trend, just as it was one of the first companies to help put over spinach, cole slaw, salad and soup mix. The present line also includes celery, chicory, dandelion greens, tomatoes and cranberries.

The "hitch-hike" idea is obviously useful wherever flavorings are involved or where any measured-quantity additive will give the consumer a bonus in convenience or satisfaction. The flexible pack for liquids might be adopted for assorted sundae toppings, for maple syrup, ketchup, jams, etc. The flexible pouch for dry ingredients might be used for chopped nuts, poultry seasoning, candies for cake decorations, or for more utilitarian purposes such as laundry starch, samples of washing powders or hardware parts.

CREDITS: *Printed polyethylene-coated paper material for Tok pouches, The Dobeckmun Co., Cleveland, Ohio. Printed Pliofilm-cellophane material for French-dressing pouches, Standard Cap & Seal Corp., New York. Cellophane produce bags, The Dobeckmun Co. and Continental Bag Specialties Corp., Clifton, N. J. Shipping containers, Container Corp. of America, Chicago. Pouch-forming, filling and sealing machine, Bartelt Engineering Co., Rockford, Ill. Heat-sealing equipment (for cellophane bags), Amsco Packaging Machinery, Inc., Long Island City, N. Y.*

PER PAK'S (Perfection Packaging) equipment is highly flexible and can be speedily adapted to fit your individual packaging needs. POWDER, PASTE AND DEVICES OF IRREGULAR SHAPES can be enclosed in heat sealed envelopes. Per Pak can work with . . . FOIL, GLASSINE, CELLOPHANE, KRAFT AND COATED PAPERS.

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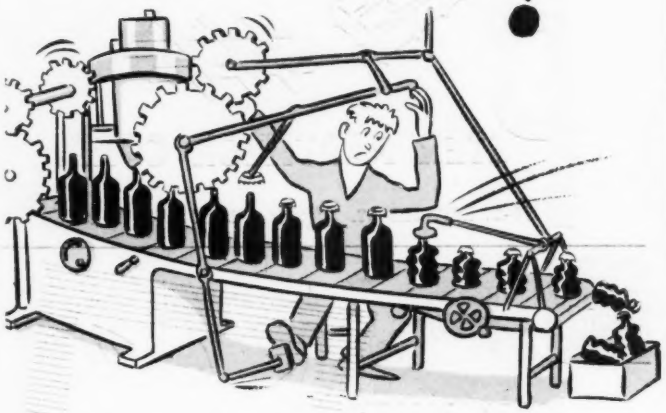

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New DuPont film

An entirely new film, said to have unusual strength, heat resistance and insulating qualities, has been developed by the DuPont company. Trademarked "Mylar," it is a polyester film similar in appearance to cellophane, but with distinct properties that indicate it will find major uses for which cellophane and other commercial films are not suitable. The most promising immediate field appears to be electrical insulation. After additional research and development, "Mylar" is likely to go into the industrial-tape field, it is said, to widen the use of film-based tapes. It is also expected to be combined in laminations with other materials. Additional uses, which may be years away, include packaging, collapsible tubes and other industrial uses.

The material is being produced experimentally by DuPont's Film Department on semi-works equipment in the company's Yerkes Research Laboratory in Buffalo, N. Y. It is expected to be several years before the film is generally available commercially and even longer before its full possibilities can be developed. Only limited quantities can be made with present equipment.

"Mylar" polyester film is a sparkling, transparent, colorless film which is tough and durable. It retains its flexibility at very low temperatures at which other films become brittle. It has high dimensional stability under heat and humidity changes, and it has good resistance to attack by chemicals, according to DuPont. It sells for $3 to $4 a pound, depending upon thickness. Reduction in price, like widespread use, must await large-scale production with its consequent reduction in costs.

Groundwork for the development of "Mylar" polyester film was laid by the late Dr. Wallace H. Carothers, famed DuPont research chemist, in his fundamental research work which led to nylon. However, "Mylar" is not chemically related to nylon. The new film is a condensation polymer obtained from ethylene glycol and terephthalic acid. Thus, it is chemically similar to DuPont's newest textile fibre, "Dacron" polyester fibre. "Dacron" is spun, whereas "Mylar" is cast in continuous sheets. It is also chemically similar to DuPont's recently announced polyester base for photographic film of superior toughness.

1. Makes the bag from a roll of paper, film, or foil.
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3. Finishes up to 36,000 packages per eight hour shift.

Here is the cost saving, streamlined way to package your product for maximum economy and plus sales!

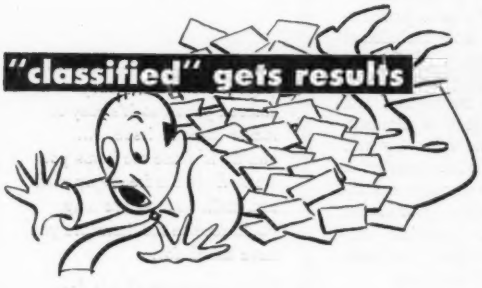
Base machine makes a pouch style bag, opens it for filling, seals it, and discharges a completed package. Design allows for selection of the best filling equipment available for your product. Special feeders for unusual items. Standard unit makes bags from heat sealing papers, foils, cellophane, laminations, etc.

Whether your product is liquid, powder, solid, multiple items, or requires packaging under nitrogen gas, the Bartelt Machine will handle your needs.

Write for Details Today

BARTELT
Automatic Packager

BARTELT ENGINEERING COMPANY, Rockford, Illinois



With D.O.'s bringing about re-organizations everywhere, there is probably a better market for your used equipment at the present moment than at any time during the past two years.

Check the inexpensive rates on "classified" on page 198 of this issue. It will pay you to convert your used equipment into cash now. Write . . .

Classified Advertising Department

MODERN PACKAGING

575 Madison Avenue New York 22, N.Y.

UNSCRAMBLER SPEEDS UP PRODUCTION

● Cartons or cases of bottles, jars, or cans dumped on table are instantly unscrambled and regimented into a single file to keep a continuous flow of units on your production line. Reduces labor costs . . . minimizes breakage . . . saves floor space . . . and meets all sanitary specifications as operator does not handle mouths of units.

GET THE FACTS NOW!

LIBERAL TRADE-IN ON OLD STYLE UNITS

Just look at these allowances on old model Unscramblers. What a golden opportunity to purchase a new Unscrambler which handles such containers as flask bottles, etc., impossible with old type units.

All 5' old style Straightline Unscramblers $125.00
All 6' Cyclone Belt Straightline Unscramblers $175.00
All 6' Rex Belt Straightline Unscramblers $250.00

Old Unscramblers must be shipped to our factory, transportation charges prepaid, within 30 days after delivery of new Unscramblers.

ISLAND EQUIPMENT CORP. 27-01 Bridge Plaza N.
Long Island City 1, N. Y. Dept. MP2

Please send full details on the Styl-O-Matic Unscrambling Tables, and complete information on your Trade-In Offer.

NAME_____
ADDRESS_____
CITY_____ STATE_____

THE NEWS WILL POP AT THE PLASTICS SHOW

In the vast world of plastics to be assembled at Philadelphia's Convention Hall there are surprises in store for you and answers to your packaging problems. *This exposition is not open to the public. Requests for admission tickets should be written on your company letterhead directed to* THE SOCIETY OF THE PLASTICS INDUSTRY, Inc., 67 W. 44th Street, New York 18, N.Y.

Exposition plans

A well-rounded program emphasizing packaging prospects, trends and case studies of significant individual packaging achievements is being readied for the 21st Annual Conference of Packaging, Packing and Shipping, held concurrently with the National Packaging Exposition. The conference, under the auspices of the American Management Assn., will be presented from April 1 to 3, with the exposition remaining open for a fourth day, April 4. Both events will be held in the Public Auditorium, Atlantic City, N.J.

One of the outstanding features of the exposition and conference will be a graphic presentation of the packaging policies and procedures of the General Motors Co., for which an entire half day will be reserved.

The GM presentation will feature an exhibit of representative products presented in their actual unit packages and shipping containers. The grouping will range from consumer or industrial items in which packaging played important merchandising roles, to products for which the primary considerations were protection and maximum handling efficiency.

Also scheduled will be a presentation by executives and technicians from a selective group of General Motors divisions, giving their organization's packaging techniques and their use of packaging equipment. Such elements as the following will be covered in their talks: description of methods and procedures, merchandising factors, design procedures, reason for specific materials employed, cost considerations, test background and materials handling.

The opening session of the conference, Tuesday morning, April 1, will present two papers, one having to do with a critical examination of the prospective supply situation with reference to materials and equipment, the other concerned with long-range trends in the field of packaging.

Two concurrent sessions will be held on Tuesday afternoon, April 1. One, a merchandising session, will consist of three papers: packaging for self-service, consumer testing of packages and retailer critiques of current packaging. The second concurrent session will be designed essentially for production executives and will cover such subjects as the establishment of standards for purchasing

Every month the readers of MODERN PACKAGING request thousands of informative booklets, catalogs and other publications which are listed in the Manufacturers' Literature page.
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The Manufacturers' Literature page is printed on heavy colored paper, so it's easy to locate in each issue. All you do is circle the items you want, fill in the free reply card and mail. And before long, you'll receive the literature you have asked for.

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WEBER BAG MACHINERY

S.O.S., SATCHEL BOTTOM AND CELLOPHANE

And, miscellaneous equipment such as automatic photocell localizing equipment and compensators for synchronizing print and cut-off for various types of bag machines, sheeters, edge alignment control, tensioning, unwind roll stands, etc. Ask us for complete details . . . Weber Bag Machinery is standard equipment throughout the world.

★ We are also interested in your special engineering or designing problems. Write us anytime . . . no obligation.

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H.G. WEBER & COMPANY, INC.

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NOPCO CHEMICAL | NOVOCOL CHEMICAL | HOFFMAN-LaROCHE

CARTER LAB

More and more of the nation's leading drug and cosmetic producers have turned to PERL bottle, tube and jar filling machines for the speed and accuracy their fine products demand. Whatever your filling requirements, PERL can make the machine that will do the job best.

A COMPLETE LINE OF MACHINES

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- For Gravity, Vacuum or Pressure
- Jar and Tube Filling and Closing
- Bottle Cleaning
- Ampoule Filling

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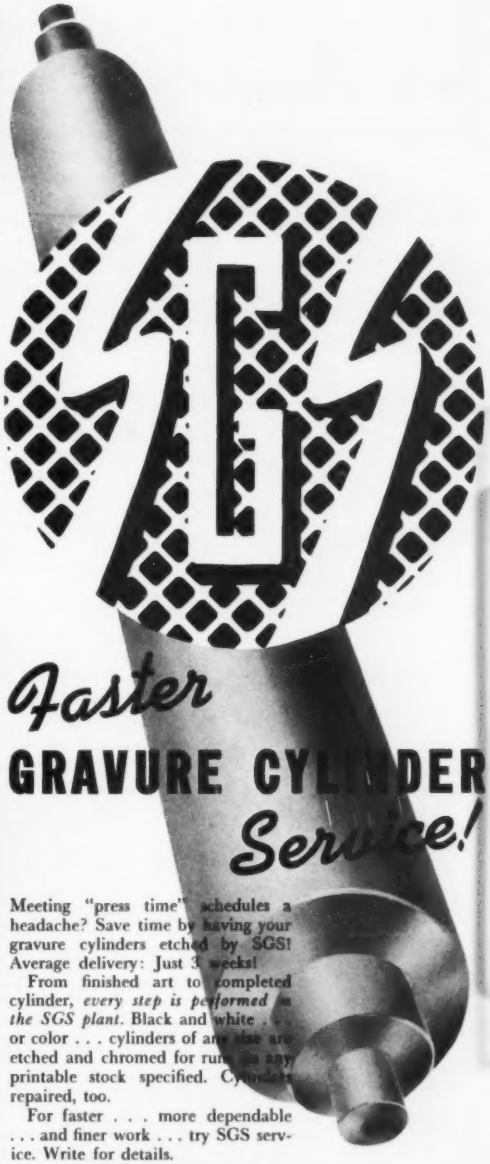

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WE'VE PROVEN IT!...
. . . And We Can Prove It To You!
Highest Quality at Unmatched Production
Rates on Sheeting and Tubing.
MODEL PO-2
Roto Bag
MACHINE CORP.
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See It Operate At The
Natl. Packaging Show
Atlantic City, April 1-4
Booth Nos. 69,673

packaging supplies and quality control.

Wednesday sessions will be devoted to the General Motor's presentation and to a comprehensive examination of programs for reducing packaging costs. Tentative conference plans call for three case histories to be presented, on an integrated basis.

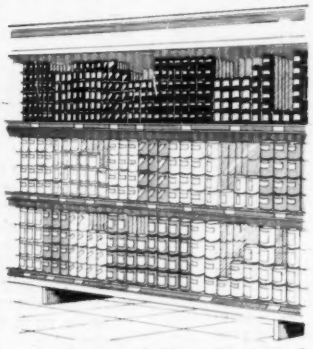
The final session of the conference will be held on Thursday morning, April 3. Papers will be concerned preponderantly with materials-handling subjects and the relationship of materials handling to the functions of packaging and packing, as well as an authoritative paper on procedures for cost determination in the packaging operation.

The Packaging Exposition, held concurrently with the conference, will be the largest in the 21-year history of the event. Some 300 companies will utilize more than 100,000 sq. ft. of space to present the machines, equipment, materials and services for packaging, packing and materials handling of both consumer and industrial products. Close to 20,000 are expected at the show.

The exposition will for the first time occupy both levels of the huge Atlantic City Auditorium. A new feature—and one believed to be without precedent in this field—will be a continuous demonstration of new techniques for loading and unloading railroad cars and highway trailers. This demonstration will be held in a specially constructed outdoor theatre adjacent to the Atlantic City Auditorium and directly accessible from it.

Shelf display of small cans

Tests were conducted recently by the Department of Agriculture's Production and Marketing Administration, Marketing and Facilities Research Branch, in cooperation with a local grocery chain in Washington, D.C., to determine whether small cans of food should be displayed



across the top shelf of the canned-foods department, or whether more sales would result by displaying them in a separate section.

A test was made by displaying for 12 weeks all 8-oz. cans across the top shelf of the canned fruit and vegetable section in one store. In a similar store they were displayed for 12 weeks in a three-shelf section alongside the 16- and 17-oz. cans and other more common sizes. At the end of the 12 weeks the displays in the two stores were reversed and the test continued for a second 12-week period. Sales records were obtained for 25 vegetables and 18 fruits.

During the test period 8% more small cans of vegetables were sold from the displays across the top shelf than from the displays in the special section, the number of cans sold being 24,088 and 22,306, respectively. More cans were sold of 17 of 25 items when they were displayed across the top shelf.

Sales of canned fruits from the displays across the top shelf were 6.7% larger than sales from the special section, the number of cans sold being 15,642 and 14,654, respectively. A greater number of cans was sold of 12 of the 18 items when they were displayed across the top shelf.

The Department of Agriculture points out, however, that the results of this research are based upon a small sample; that care, therefore, should be taken in generalizing from them. Limitations of the study arise because (1) this was only one test conducted in but two stores and (2) the test compared a new method of display (separate section) with the standard method (across the top shelf).

Despite these limitations, however, the Department of Agriculture believes that the results are sufficiently conclusive to indicate that the present practice of displaying small cans across the top shelf, as illustrated, should not be changed unless one has evidence to prove that displaying in a separate section is better.

Kellogg's Corn Flakes

(*This article continued from page* 98)
himself, and the entire contents emptied into the bowl.

The individual-service packages now incorporate special features which further facilitate their opening and use. Prior to World War II, the Kellogg Co. devised a new quick-opening feature which consisted of scoring the top of the package so that it could be broken open with very little effort.

Another noteworthy development in connection with the individual packages was the Kel-Bowl, developed originally for the Armed Forces and introduced on commercial packs in December, 1941. It consists of an optional opening feature by means of which the back panel of the package may be opened and the inner bag cut and folded back so that the box doubles as a cereal bowl, eliminating the need for a dish. Use of the wax inner liner makes it possible to add milk or cream directly to the package contents without leakage.

In the latest individual packages of Corn Flakes and other cereals, both these unusual package features have been combined in the Easy-Open Kel-Bowl. The outer carton is so scored that the user may either tear off the top of the package or, if he prefers, open the perforated doors on the back panel and make use of the package itself as a cereal bowl. The package is particularly appreciated by campers and others desiring to eliminate dish-washing chores. It is also light in weight, eliminates product waste and does an excellent job of product protection. In a household where children are served breakfast cereals, the child himself can easily open the Kel-Bowl package, pour milk into the container and then discard it after the contents have been consumed.

The Kellogg Variety packages are redesigned periodically to keep pace with new merchandising themes. Fundamentally, they consist of a paperboard tray holding ten 1-oz. packages (seven varieties) of cereals, with the entire unit overwrapped in cellophane. Sides and ends of the tray afford sufficient space for identification and promotional copy, but do not obscure the display panels of the individual packages. In its latest version, the Variety pack is keyed to the currently popular All-Star Revue on television, of which Kellogg is a co-sponsor. Included on one tray is a small picture of Jimmie Durante, one of the stars of the program. The bottom surface of the tray is devoted to information on Kellogg's silverware offer, including four silver units and a special-offer coupon on a silverware chest.

One of the newest Kellogg combination packages to reach the market is the Handi-Pak. This consists of a cellophane overwrap of eight of the 1-oz. packages, all containing the same type of cereal. The Handi-Pak offers the convenience and protection features of the Variety pack, including unit servings and Easy-Open Kel-Bowl packages. The principal difference lies in the construction of the package and the fact that each of the packages contains "straight" packs of one cereal.

A noteworthy feature of Kellogg's entire promotional and advertising program is its high degree of integration—the careful dovetailing of special offers, package panel designs, premiums, radio and television programs, newspaper and magazine advertising and related activities. Periodically, the company supplies its thousands of retailers with attractively prepared schedules and promotional material advising them of current advertising programs, special sales events and other developments which help them to do a better merchandising job. The entire activity is planned to take advantage of tie-in sales with other types of food products which may be served with Kellogg's cereals.

Special store displays are used in connection with sales events.

Even at lunch counters, Kellogg cereals receive unified, attractive display, through the use of special racks which show off the various cereals to advantage and facilitate serving. One of the latest of these racks, constructed of polystyrene, is molded in modular sections so that it may be adapted to the amount of space available. Regardless of the number of sections used, the unit provides unmistakable product identification, with the familiar Kellogg script logotype across the top.

Kellogg's in 1923 became one of the first of the nation's food manufac-

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THIS IS THE ANSWER!...
First Quality Pliofilm Bags in a Consistently Efficient High Speed Operation!
Roto Bag
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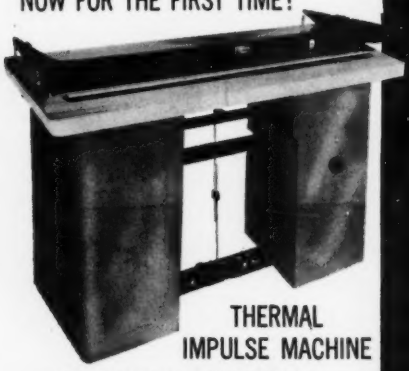

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FABRICATES AND SEALS . .

ANY WIDTH UP TO 42" !

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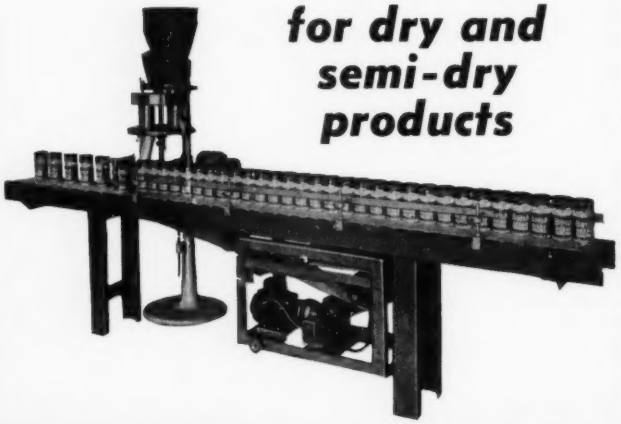

STUYVESANT ENGINEERING COMPANY

107 STUYVESANT AVENUE LYNDHURST, NEW JERSEY

turers to set up a special home economics department to handle testing and development of recipes and related material of value in the Kellogg advertising and promotional programs.

The company is unique among large food companies in that throughout its long history it has confined its entire efforts to the production and marketing of one item—cereals—whereas most of its major competitors now function as divisions of large organizations manufacturing a wide range of food products.

In addition to the main plant at Battle Creek, Kellogg operates a large manufacturing unit at Omaha, Neb., and recently acquired a third domestic plant at San Leandro, Calif., which eventually will produce the full line of Kellogg cereals. Foreign sales are handled both by the United States company and by foreign subsidiaries organized throughout the world, with foreign plants located in Canada, England, Australia, South Africa and Mexico.

The company since 1939 has been directed by W. H. Vanderploeg as president. But Mr. Kellogg himself served as president or chairman of the board of directors of the company from its beginning until May 21, 1946, when he asked to be relieved of his duties because of advancing age. He died in October, 1951, at the age of 91.

A retiring individual, Mr. Kellogg nevertheless devoted much of his long life to helping others. In 1930 he organized the W. K. Kellogg Foundation for the purpose of "receiving and administering funds for the promotion of the health, education, and welfare of mankind, but principally of children and youth. . . ." During the first 12 years of its existence, the Foundation's operations were largely local or regional, but upon U. S. entry into World War II, its program was revised to encourage activities contributing to the war effort. Divisions of the Foundation, to which Mr. Kellogg turned over substantially all his stock in the company, include general education, medical education, nursing education, public health, hospitals and dental education. In its first 21 years, the Foundation spent more than $32,000,000 in carrying out its objectives.

Thus there may be inscribed in *Packaging's Hall of Fame* another example of an idea teamed with a

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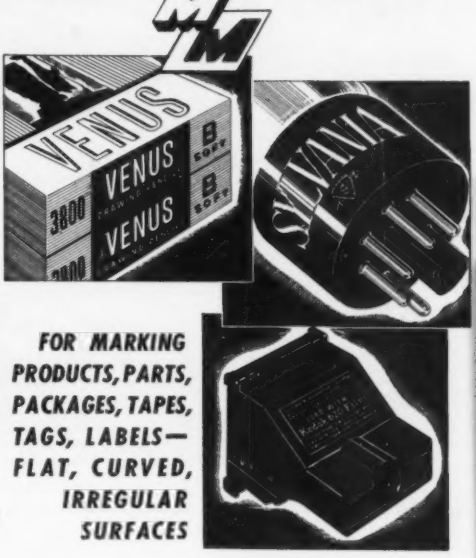

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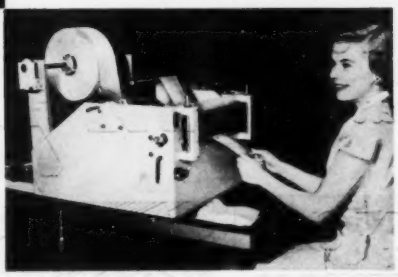

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LOW COST INSTALLATION OPERATION

- Makes bags up to 14" wide, 27" long
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CREDITS: *Cartons, Container Corp. of America, Chicago; Gardner Board & Carton Co., Middletown, Ohio; Michigan Carton Co., Battle Creek, Mich.; Sutherland Paper Co., Kalamazoo, Mich.; Waldorf Paper Products Co., St. Paul, Minn. Newsboard (for cartons made by Kellogg), Eddy Paper Corp., Chicago; Michigan Carton Co.; Sutherland Paper Co. Glassine, Rhinelander Paper Co., Rhinelander, Wis.; Riegel Paper Corp., New York. Cellophane, E. I. DuPont de Nemours & Co., Inc., Wilmington, Del.; Sylvania Div., American Viscose Corp., Philadelphia; Olin Products Co., Inc., New York. Printed cellophane for Handi-Pak wraps, Cello Foil Co., Battle Creek, Mich.; The Dobeckmun Co., Cleveland, Ohio; Shellmar Products Corp., Mt. Vernon, Ohio. Aluminum foil, Reynolds Metals Co., Louisville, Ky. Inks (for Kellogg), International Printing Ink Co., New York; E. J. Kelly Co., Kalamazoo, Mich. Package forming, filling, bag-making and closing machines, Pneumatic Scale Corp., Quincy, Mass. Cellophane-wrapping machines, Battle Creek Wrapping Machine Co., Battle Creek, Mich. Portable check-weighing equipment, Exact Weight Scale Co., Columbus, Ohio.*

Pilferproof container

Novel features for display and protection against pilfering and damage are employed in the fund-raising display container used by the Muscular Dystrophy Assn. of America, Inc. The donation package is in the shape of a wheel chair complete with wheels, foot rest, handle bars and coin slot, all die cut in a basic sealed-end box.

The container is printed in red and blue high gloss inks on 0.030 white patent coated solid kraft board. The acetate window is 3-gauge cellulose acetate, one of the heaviest thicknesses run on a window-applying machine. Protection against pilfering or damage to the window is achieved by extending the glue lap to a fifth panel of the box, cut out to the shape of the window and extending over the entire window panel. The box, instead of being glued on a straight-line gluer, was run on a spot-gluing machine to seal the window in on four sides. Spokesmen for the association reported that display effectiveness was excellent, as was the protective performance of the package.

CREDIT: *Display container, Universal Folding Box Co., Inc., Hoboken, N. J.*

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OAKLAND — Jean S. Panten Company, 600 Sixteenth St.
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One push erects and—

locks bottom automatically

No more breaking of scores or hand tucking of flaps.
Your present package can possibly be converted to this style which is adaptable to most sizes, weights of boxboard, and types of printing.
For quotation and hand cut samples please send samples of your present cartons, say quantity required, and if you furnish printing plates.

Push side edges to shape box. This locks bottom automatically.

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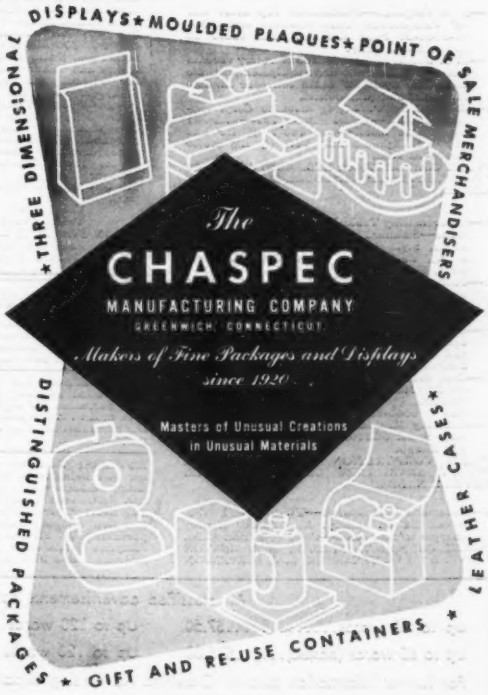

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1—Packomatic telescoping fillers for rectangular bottom sealed cartons complete with drive and motor. Sample size.
1—Packomatic Model 16-13 Top & Bottom Sealer, Dryer, complete with drives and motor. Regular carton size: 2⅛" x 6" x 8½".
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1—Packomatic telescoping fillers for rectangular bottom sealed cartons complete with drive and motor. Regular size.
1—Buell Cyclone for dust collection. Four Compartment #10½ A2 Buell. Capacity approx. 35,000 CFM Pressure drop approx. 5" H_2O.
1—Buell Cyclone for dust collection. Four Compartment #8 A2 Buell. Capacity approximately 15,000 CFM Pressure drop approx. 5" H_2O.
1—1941 1½ ton Ford V-8 Truck. Motor No. MR9947891, License Plate No. N-57113, Truck Number 7.
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1—J. L. Ferguson Packomatic Top Gluer. Model D. Serial #2-2646M. Good condition. Motor 1 HP, 220/440V, 60 Cycle, 3 Phase.
1—J. L. Ferguson Packomatic Compression Unit. Model 8, 15 feet long. Serial #2-2646—Good condition. Motor 1 HP, 220/440V—60 Cycle, 3 Phase.
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1—Consolidated Packaging Machine Corp. capping machine—Model #B-3-F 781—with (2) Lewis Allis motor—220/440 V ¾ HP and (1) Westinghouse 220 Volt ¼ HP motor for capen feed.
PUREX CORPORATION, LTD., 4600 CHIPPEWA STREET, ST. LOUIS, MISSOURI, MR. L. J. PELLETIER

1—Unscrambling Table Model 301, Serial #485, Make—Standard Knapp. Motor—Westinghouse, Style 11B00394A, Serial-AP. ¾ HP, 3 PH, 60-50 Cycle, 220-440V, 1725-1425 RPM, Frame 186.
1—Filling Machine, Serial #BF 464; Make, International. 24 tubes. Motor—Diehl, Type D1-1200-1, 1½ HP, 3 PH, 60 Cycle, 220 V, 1725 RPM, Frame 204.
1—Case Sealer, Model D-8-2945B; Make, Packomatic. Motor—Westinghouse, Type FS1186-032A, ½ HP, 3 PH, 60-50 Cycle 220-440 V, 2547-2561 RPM, Frame 186.
1—Case Sealer Compression Unit. Model B-8-2945B. Make—Packomatic. Motor—Sterling #10098, ¾ HP, 3 PH, 60-50 Cycle, 220-440 V, 1660-1500 RPM, Frame K-191.
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FOR SALE: Brightwood Box Machine, for setting up and glueing box blanks. Standard 6" top-feed, end-shedder; with vari-drive motor and controls. Little used. Like new. Sell at sacrifice. Also Hayssen Model 3-7 wrapper, for overwrapping small packages with waxed paper. Electric-eye operation. Motor included. Little used. Sell at sacrifice. Box 299, Modern Packaging.

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SALES ENGINEER: Or Technical Salesman for well known manufacturer of packaging materials. Permanent position. Fine opportunity for right man. Box 287, Modern Packaging.

SALES PERSONNEL: Manufacturer of coated and printed specialty papers desires additional sales personnel for expanding sales force. Write with details. All replies strictly confidential. All our personnel know of this ad. Box 292, Modern Packaging.

BROKERS: Exclusive territorial arrangements are now being made with manufacturers agents doing business with volume users of Polyethylene, Cellophane, Laminated Foil & Kraft Paper, and Kraft Paper-Polyethylene Coated bags. This is a new company offering "Ground Floor" opportunities for all who act promptly. Please give complete information about your activities if interested. Box 294, Modern Packaging.

SALES ENGINEERS: Well known and established manufacturer of packaging machines have a place for two experienced packaging machine sales engineers in their expansion program. Persons selected will receive home office technical training and good salary. Give complete experience and qualifications in first letter, which will be held confidential. Box 291, Modern Packaging.

CONVERTER REPRESENTATIVE: A capable man with experience in flexible packaging sales who will do real job of selling our new line of Saran bags in California. This is a new territory for us. Saran film has a tremendous future in this state. Here is an unusual opportunity. Give us full details of yourself. Box 297, Modern Packaging.

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PACKAGING ENGINEER: National organization, a leader in its field, has opening for a capable and experienced man to supervise and service bread wrapping equipment. Knowledge of packaging materials desirable but not essential. Career opportunity. Salary commensurate with experience and ability. Requires extensive travelling. Reply in strict confidence; give age, dependents and details of experience to Box 298, Modern Packaging.

WANTED
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Outstanding labeling machinery line of versatile, diversified equipment seeks agents. Excellent opportunity for highest qualified reps with no conflicting lines. Send details, including present lines handled. Box 290, Modern Packaging.

SITUATIONS WANTED

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MANUFACTURER'S AGENTS: And Distributors, five salesmen covering California, warehouse facilities, wants packaging supply and material lines. Excellent references. Write Box 293, Modern Packaging.

MISCELLANEOUS

CELLOPHANE FOR SALE: Approximately 36,000 #300 MSAT86 Cellophane laminated to #300 MSAT Cellophane, 7 3/16" rolls. Available immediately at our cost. Box 267, Modern Packaging.

WANTED: Plastic scrap and rejects in any form. Cellulose Acetate, Butyrate, Polystyrene, Vinyl Polyethylene, etc. We pay top prices for clear, colored and printed scrap in any quantity. Box 252, Modern Packaging.

WANTED: Cameron Slitter, Packaging Line, Labeler, Capper, and Mixer. Box 300, Modern Packaging.

WANTED: New or used cellophane bagmaking, sheeting and slitting equipment wanted by Pacific Coast converter. Box 296, Modern Packaging.

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Modern packaging

Published by Modern Packaging Corp.
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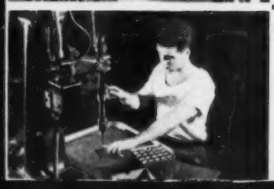

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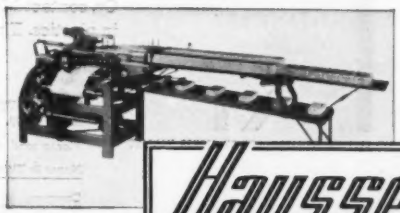

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